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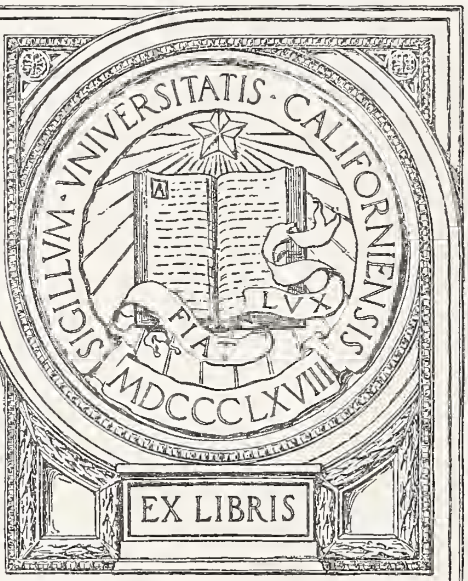

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Arizona Medicine

JOURNAL OF ARIZONA MEDICAL ASSOCIATION
MEDICAL SOCIETY OF THE UNITED STATES AND MEXICO

JULY 1967
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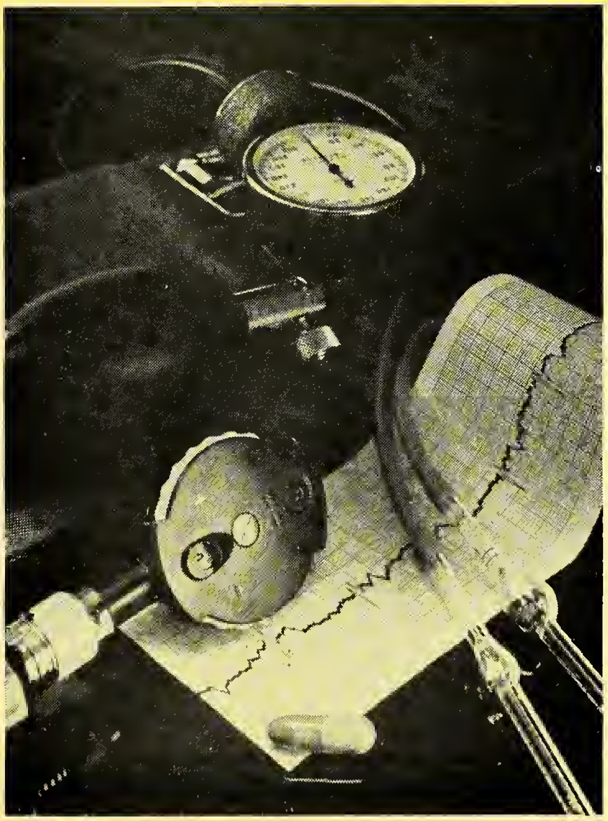

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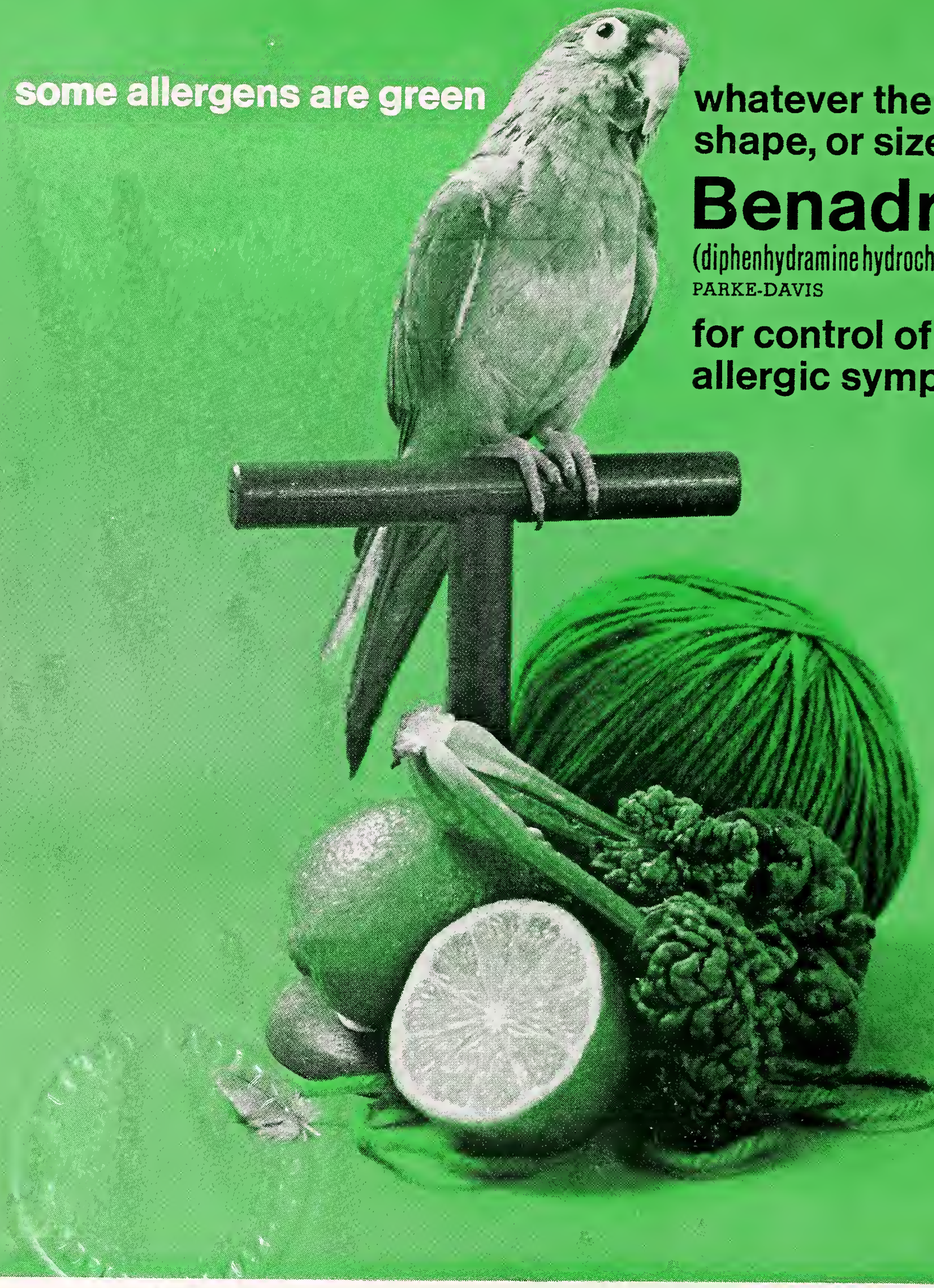

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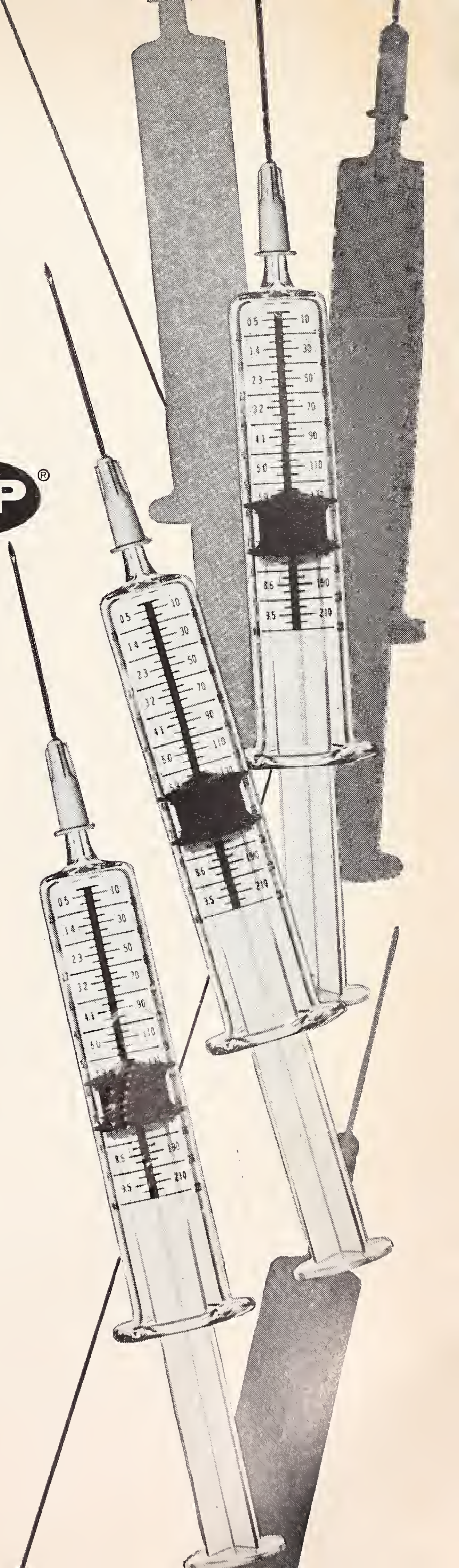

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MEDICAL SOCIETY OF THE UNITED STATES AND MEXICO

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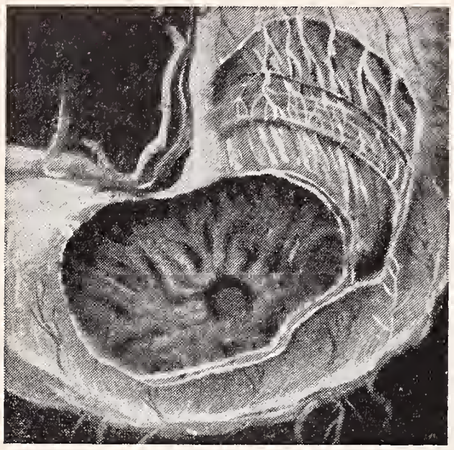

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ONE YEAR

One year ago there was instituted legislation that was epoch-making in its scope, for it was conceived of the people, by the people, and for the people, for such is the nature of our government. It was legislated medical care.

This was P.L. 89-97 – Medicare. It did make available medical care to a national group for whom adequate medical care had long been curtailed. It could be a prideful step in the progress of medicine would it be accepted in good faith by both the recipients of the service and by the donors thereof. We feel that this legislation was inevitable, but we further feel that at the present time it is being grossly abused by the recipients of its benefits.

What travesties are committed in the name of progress!

Now there has developed a multi-departmented giant with no readily available solutions to its many faceted problems. Legislation calls for "extended care facilities" – with no provision for either their existence or staffing. Legislation calls for functional utilization committees, but neglects to either review their recommendations or grace their decisions. Legislation calls for an end to poverty-like medicine, and the hospital admissions of eligible patients have skyrocketed to the degree that geriatric areas are either being planned or are in the process of construction in almost all localities; and the legislation itself has been so enthusiastically received that it has become fashionable to visit the physicians in rather compatible groups, much in the manner of a family picnic.

Any good legislation, and we freely admit that P. L. 89-97 is basically good legislation, must be open to frequent review, analysis, adjustment and revision, not only of the legislation itself but of those whom the legislation affects in its ultimate function.

ARIZONA MEDICINE would go on record as favoring and encouraging such an analysis and review. Let there be a return to the reasonable treatment of disease instead of a call for "Room Service, please!"

Roland F. Schoen, M.D.
Editor

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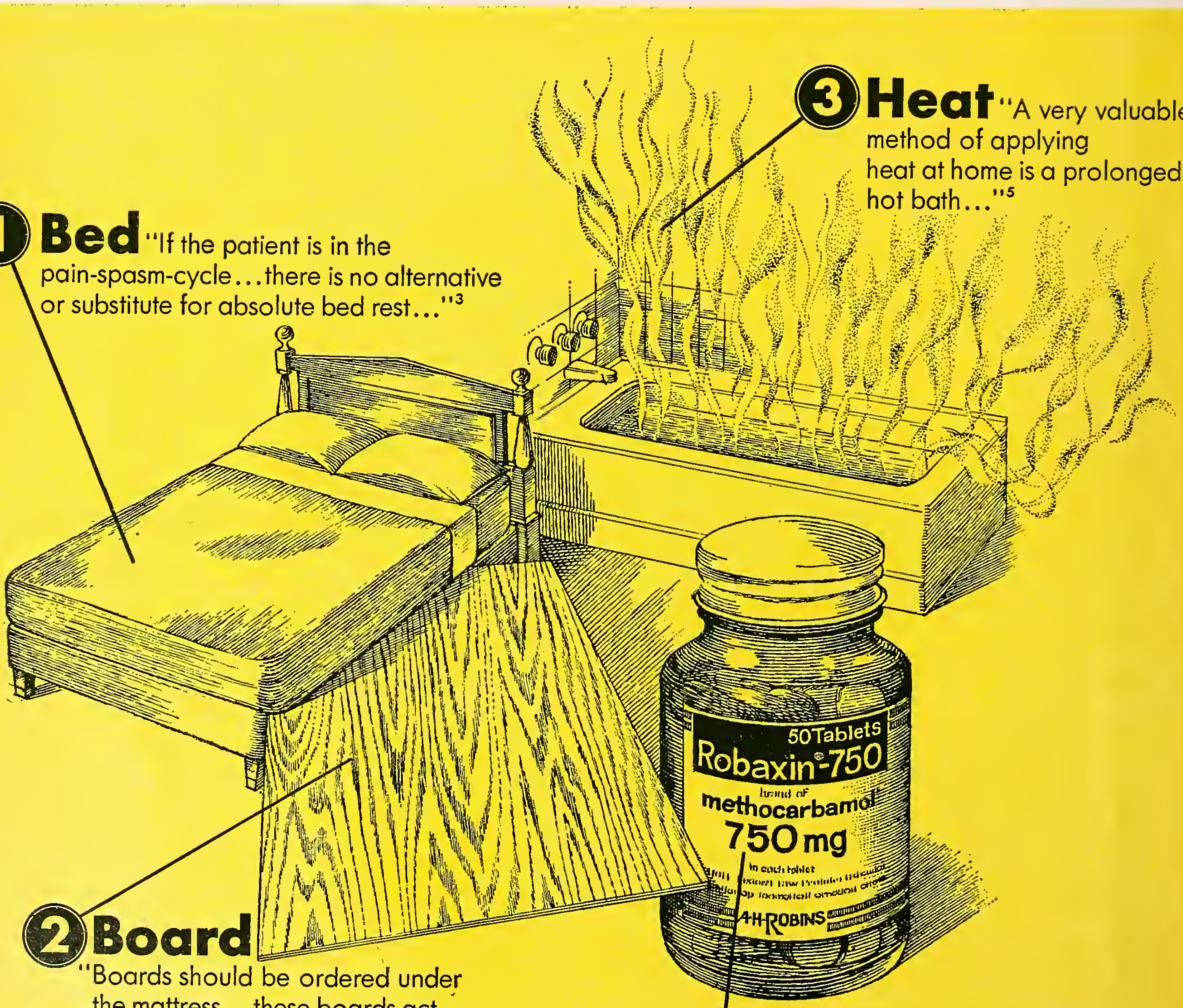
The low back pain that is most frequently seen in general practice is mechanical in nature, i.e., postural back pain, joint dysfunction and acute back strain.[1,2] For this type of discomfort, a conservative regimen is usually sufficient to relieve aches and pains, and to help keep the patient functioning. Components of this basic program include:



① Bed "If the patient is in the pain-spasm-cycle…there is no alternative or substitute for absolute bed rest…"[3]

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References: (1). Godfrey, C.M.: Applied Therap. 8:950, 1966. (2). Gottschalk, L.A.: GP 33:91, 1966. (3). Rowe, M.L.: J. Occup. Med. 2:219, 1960. (4). Cozen, L.: South Dakota J. Med. *18*:26, 1965. (5). Soto-Hall, R.: Med. Sc. *14*:23, 1963. (6). Weiss, M. and Weiss, S.: J. Am. Osteopath. A. 62:142, 1962. (7). Feuer, S.G., *et al.*: New York J. Med. 62:1985, 1962.

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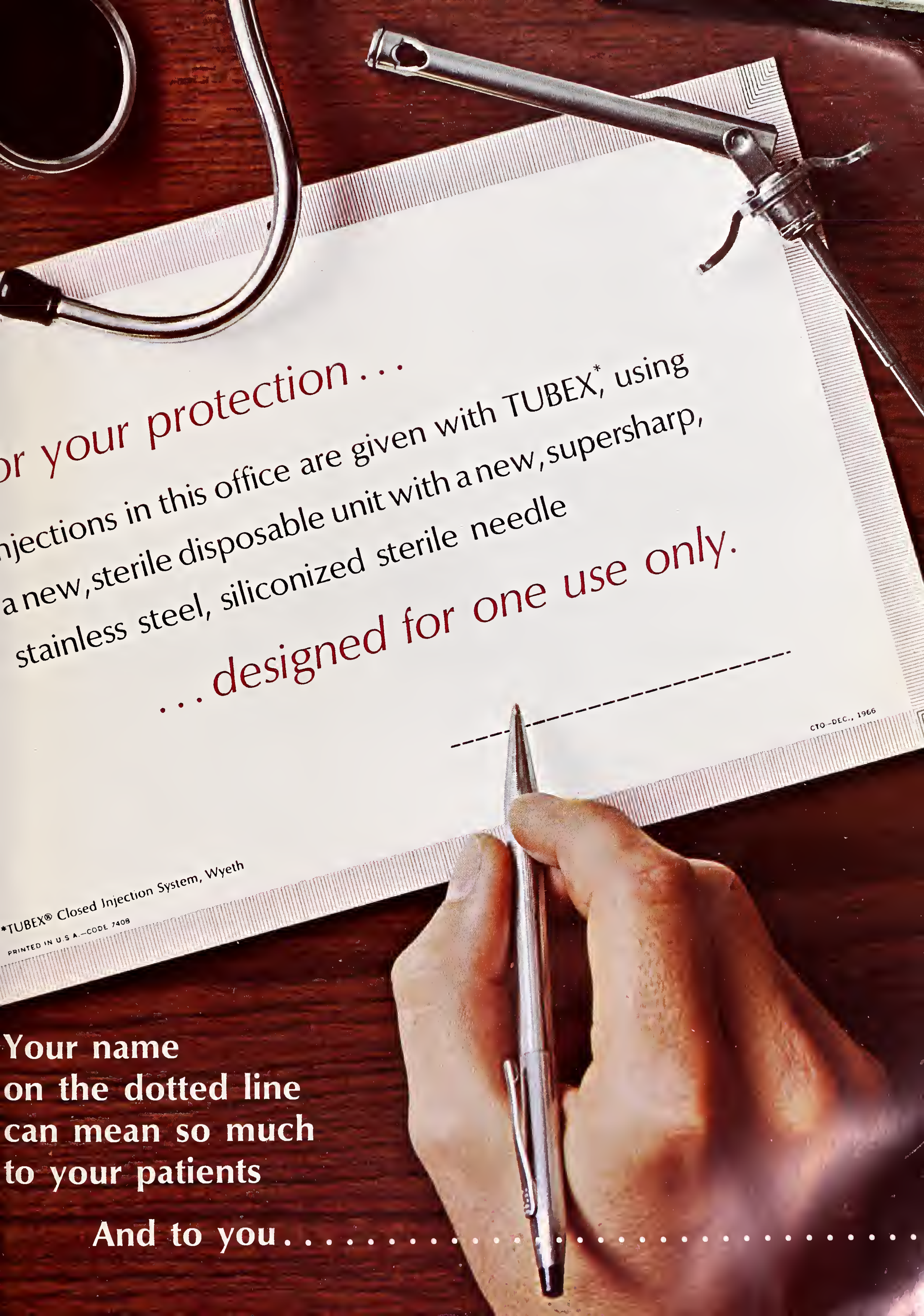

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BOARD OF DIRECTORS

Meeting of the Board of Directors of The Arizona Medical Association, Inc., held Tuesday, April 25, 1967, in the Convention Center of the Safari Hotel, Scottsdale, Arizona, convened at 7:55 P.M., Arthur V. Dudley, Jr., M.D., Chairman, presiding.

Roll Call

PRESENT: Drs. Beckwith, Harry S.; Brazie, Walter; Brooks, Jack E.; Cloud, Daniel T.; Derickson, Philip G.; Dexter, Richard L.; Dudley, Jr., Arthur V., Vice President & Chairman; Dysterheft, Arnold H., President-Elect; Finke, Howard W.; Flynn, Richard O.; Henderson, Charles E., Secretary; Jarrett, Paul B., President; Landeen, Fred H., Treasurer; McDaniel, W. Shaw; Melick, Dermont W.; Moody, Deward G.; Price, Robert A.; Schoen, Roland F.; Smith, Noel G.; Steen, William B.

COUNSEL: Mr. Jacobson, Edward.

STAFF: Messrs. Carpenter, Robert, Executive Secretary, ArMA; Robinson, Bruce E., Assistant Executive Secretary, ArMA; Boykin, Paul R., Executive Secretary, BOMEX.

GUESTS: Drs. Hudson, Charles Lowell, President, AMA; Chesser, Ian M., Chairman, Medical Economics Committee; Kahle, John F., Chairman, ArMPAC Board of Directors; Reed, Wallace A., Chairman, Subcommittee on Title XIX; Schaller, Donald F., ArMA Representative — Emergency Medical Services; Yount, Jr., Clarence E., President — Arizona State Board of Health.

EXCUSED: Dr. Eddy, Jr., Warren D.; Dr. Rhu, Jr., Hermann S.

Welcome

The Chairman extended a special welcome to Charles Lowell Hudson, M.D., President of the American Medical Association; likewise to Ian M. Chesser, M.D., Chairman of the Medical Economics Committee; John F. Kahle, M.D., Chairman, ArMPAC Board of Directors; Wallace A. Reed, M.D., Chairman, Subcommittee on Title XIX of the Federal Services Committee; Donald F. Schaller, M.D., ArMA Representative to the AMA Conference on Emergency Medical Services; and Clarence E. Yount, Jr., M.D., President, Arizona State Board of Health.

Minutes

Approved minutes of the meeting of the Board of Directors held January 29, 1967.

AMA Conference — Emergency Medical Services

Dr. Schaller reported that on April 6th and 7th he attended the AMA Conference on Emergency Medical Services in Chicago, as a representative of this Association. It was designed to attempt to develop postive action on the part of physicians to improve emergency medical services throughout the country. Many areas in the country are not adequately covered. The task includes training personnel in first aid, including better ambulance services, better communications between ambulances and hospitals, and improving the training of physicians themselves. It is felt local state societies should take the initiative. Standards approved by the Congress on Highway Safety were reviewed; however, it is the feeling that such should be developed on the local level possibly with the assistance of the State Health Departments.

The program included workshops encompassing five areas: (1) first aid and rescue; (2) transportation of ill and injured; (3) emergency communication; (4) emergency facility staffing; and (5) emergency facility patient management. A final report and specific recommendations will be forthcoming. Dr. Schaller endeavored to encourage the Board to consider seriously taking some action to set up some kind of group to make a study of our emergency situation on a state-wide basis. This would include an evaluation of the various emergency rooms, the kind of patients they are equipped to handle, the kind of equipment each contains, the way they are staffed and the way emergency room coverage occurs. The setting up of some sort of communication network with a central dispatcher trained in medical ways is encouraged. Also, consideration should be given to encourage all Arizona physicians to take an active role in training all citizens in first aid and training other special groups, such as law enforcement agencies, fire and ambulance services. Dr. Schaller filed with the Board a written report.

On motion regularly made and unanimously carried, the Board recommends to the incoming President that a committee under the Professional Committee be established to study the program and make recommendations to the Board.

ARMPAC Board of Directors

Dr. Kahle reported that membership to date (1967) totalled 85 in an off-election year which is about 25% of last year's total. Every effort is being made and Board support is solicited to increase the membership. There will be an AMPAC Workshop in Washington, D.C., June 3rd and 4th. The annual ArMPAC Dinner is scheduled to be held Friday evening, April 28th. Mrs. Ethel Gastineau, member of the national AMPAC Board of Directors, Representative Waldie (D) from California and our own Representative Steiger (R) from Arizona will be the guest speakers. The two Congressmen received the support of the doctors in their successful campaigns in 1966. It is anticipated a number of our State Senators and Representatives will be in attendance.

On motion regularly made and unanimously carried, the Board extended to Dr. Kahle its appreciation for a job very well done as Chairman of the ArMPAC Board.

On motion regularly made and unanimously carried, the Board determined to attend the ArMPAC function Friday evening next en masse.

Medical Economics Committee

ODMC-OCHAMPUS Contract Extension

Approved prior execution of ODMC (OCHAMPUS) Contract No. DA-05-114-66-MD-87 (expiring February 28, 1967), Supplemental Agreement-Modification, extending the contract from March 1, 1966, to August 31, 1967, to permit the re-negotiation of a contract on the basis of the usual, customary and reasonable fee concept.

ODMC-OCHAMPUS Contract Extension — UCR Fee Concept

Dr. Chesser reported that the Medical Economics Committee met with General Norman E. Peatfield, February 24th. Discussion was informative and productive. A continuation contract has been submitted for execution, effective April 1, 1967, based upon the UCR fee concept. A screening ceiling process will be established through the Fiscal Administrator who will review claims for reasonableness in relation to the socio-economic area concerned, taking into account the customary charge for similar services generally made by the physician or other persons furnishing such services, as well as the prevailing charges in the locality for similar services, and, where indicated, forward such claims which cannot be resolved satisfactorily to the medical committee provided for. This will be the Professional Committee of Blue Shield.

On motion regularly made and unanimously carried, the Board approved the OCHAMPUS contract submitted, based upon the usual, customary and reasonable fee concept, effective April 1, 1967, to extend to March 31, 1968, and authorized its execution.

Industrial Commission of Arizona — Fee Schedule

Dr. Chesser reported that until the law is changed, the Industrial Commission of Arizona cannot function on the basis of usual, customary and reasonable fee concept. A fee schedule is specified. With this in mind, the Commission has been approached utilizing the California Relative Value Studies — 1964 with a factor of 6. Certain modifications appear indicated. The climate appears favorable and, with a re-write of the Rules which the Commission is favorably disposed to do, and a continuing series of meetings through May, it is the hope a mutually satisfactory schedule will be arrived at by the expiration of the current agreement June next. The Medical Economics Committee will submit a final report in due course. An amendment to the law, presently requiring a fee schedule, appears to be the next target which should be processed through the Legislative Committee. RECEIVED.

Central Office Advisory Committee

Financial Report

Dr. Landeen reported that for the calendar year 1966, total revenues in excess of expenditures amounted to $9,959.27; further, that our cash position is excellent.

Briefly reviewing the 1968 Budget, it was pointed out that the total anticipated income amounts to $204,375.00 against a total expenditure of $202,989.00 leaving a contingency of only $1,386.00, which is totally unsatisfactory and unworkable. While unpleasant, it must be stated that we must begin to think in terms of an annual dues increase in order to maintain an orderly and systematic increase, thus avoiding deficit spending. The 1967 budget was balanced with no projection for unusual expenditures. It has been determined to establish an accumulative depreciation account for replacement of office equipment which will provide a reserve of funds available for such replacement on established schedule. Previously, such equipment depreciation account was provided for; however, the funds reverted to the General Fund. The Auditor has been instructed to so provide for in our accounting system.

Approved the Audit for the year 1966 and the establishment of an accumulative equipment depreciation reserve account.

Dr. Landeen further reviewed the financial report covering the first quarter of this year to and including March 31, 1967, reciting total "REVENUES" received amounting to $152,100.66 ($197,658.00 budgeted) and "EXPENDITURES" of $41,922.59 ($194,795.28 budgeted, as amended).

Membership Classifications

COCONINO Theodore E. Bratrud, M.D. (Sedona-Santa Ana) — Active, granted Associate (dues exempt), account Residency Training, effective January 1, 1967.

MARICOPA Maricopa County Medical Society called attention to a number of its members who have decided to suspend the active practice of medicine to pursue residency training. Its Board of Directors has established policy to reduce these members' dues by one-half since they are leaving the area this year. Since they receive only partial benefits from the Society, it is felt only part of the dues should be charged. This Association is requested to give a similar reduction in dues for members leaving mid-year for postgraduate or military service duty. It was pointed out that neither the By-Laws of ArMA nor AMA provide therefor, excepting in the instance of a new member accepted for membership on or after July first.

Referred to Articles of Incorporation and By-Laws Committee for discussion.

Avi Ben-Ora, M.D. (Phoenix) — Active to Associate (dues exempt), account Residency Training, effective July 1, 1967, forwarding one-half dues (1/1/67-6/30/67). Unable to grant in absence of By-Law provision therefor as to dues.

John Allen Jones, M.D. (Phoenix) — Active, granted Associate (dues exempt), account Residency Training, effective September 1, 1967.

Frank M. Kilgard, M.D. (Phoenix) — Active, granted Associate (dues exempt), account retirement, effective January 1, 1967.

Martin S. Kleckner, Jr., M.D. (Phoenix) — Active to Associate (dues exempt), account retirement reason of health), effective January 1, 1965. Member suspended February 15, 1965, account nonpayment of 1965 dues, dropped from membership January 1, 1966. TABLED.

Thomas E. McCauley, M.D. (Phoenix) — Active, granted Associate (dues exempt), account Military Service, effective January 1, 1967.

Ruth L. Steckl, M.D. (Phoenix) — Active, granted Service (one-quarter dues), account full-time employment — Maricopa County Health Department, effective January 10, 1967.

Wayne F. Winn, M.D. (Phoenix) — Active to Associate (dues exempt), account Residency Training, effective May 1, 1967, forwarding one-half dues (1/1/67-6/30/67). Unable to grant in absence of By-Law provision therefor as to dues.

PIMA Ronald Charles Almgren, M.D. (Tucson) — Active (dues exempt 1966 account financial hardship), granted Active (dues exempt account continuing financial hardship), effective January 1, 1967.

Lindsay E. Beaton, M.D. (Deceased 2/8/67) (Tucson) — Family requests 1967 dues refund — both ArMA and AMA. Granted refund of ArMA 1967 dues. As regards refund of 1967 AMA dues, this is matter for determination of that Body and family should make request known corresponding direct with AMA. Determined to refer this matter to the Articles of Incorporation and By-Laws Committee for discussion.

Thomas P. K. Lim, M.D. (Tucson) — Active, granted Associate (dues exempt), account Residency Training, effective February 10, 1967.

Edward S. Lundgren, M.D. (Tucson) — Active, granted Service (one-quarter dues), account full-time employment — Tucson VA Hospital — April 1966, pending receipt of dues, effective January 1, 1967.

Proposed Meeting Schedule

Adopted the following meeting schedule for 1967-68:

Board of Directors

May	21, 1967	January	14, 1968
July	9, 1967	March	10, 1968
September	10, 1967	April	23, 1968
November	12, 1967	(Annual Meeting)	

Executive Committee

May	20, 1967	November	11, 1967
July	8, 1967	January	13, 1968
September	9, 1967	March	9, 1968

Professional Committee

June	11, 1967	December	10, 1967
October	8, 1967	February	18, 1968

Legislative Committee

October	22, 1967	December	17, 1967
	February	11, 1968	

Benevolent and Loan Fund Committee
August 20, 1967

House of Delegates

Blue Shield Task Force — Report

Dr. Jarrett advised that, in accordance with the adopted recommendations of the Reference Committee on Resolutions of our House of Delegates, April 30, 1966, relating to Resolution No. 8, Blue Shield Organization, the Task Force of the National Association of Blue Shield Plans undertook and completed its investigation and has submitted its report, copies of which have been prepared and distributed to all Delegates and Alternate Delegates, including members of this Board. Its conclusion:

> "The Task Force has been unable to identify any problem confronting Arizona Blue Cross-Blue Shield in terms of its operations, or of its relations to the physicians and hospitals who provide health care, or of its ability to function effectively as a prepayment mechanism representing the physicians and hospitals of Arizona, that would be resolved or materially changed by establishing separate executive directorships for Blue Cross and for Blue Shield."

Any further action will be the prerogative of the House.

AMA Disability Insurance Program

Dr. Melick reviewed briefly correspondence received from the Charles O. Finley & Co., Inc., of Chicago, Brokers, the Continental Casualty Co. and the AMA relating to the group Disability Insurance Program in effect, available to members of AMA. He expressed the view that, in his opinion, there has been considerable misunderstanding among the membership regarding the program; further, that the action of AMA has been considerate and the Board of Trustees is well versed in the way the program should be carried out. RECEIVED.

Dr. Hudson reviewed the history of the program commencing just prior to his association with the AMA Board of Trustees in 1961. Despite the fact that an independent Actuary, hired by the Board, following review of the then proposed program, would have nothing to do with it, and question raised as to whether such a program should be activated in the light of other similar programs in operation through State and County Medical Societies and Specialty Societies, the Board did approve it. The program had unique features and these unique features are its weakness — the easy acceptance of policyholders without evidence of insurability and taking people into a lifetime retirement. The Board interpreted the will of the House of Delegates to mean that it wants some kind of program continued. The Insurance Committee is still meeting and it is anticipated the Board, within a couple of weeks, will receive additional information. This will be reported to the House, possibly with alternate recommendations, and that Body will make the final decision at the June annual meeting. RECEIVED.

ArMA Resolution No. 15 — Physicians on Hospital Boards

Approved interim Presidential appointment of Bertram L. Snyder, M.D. (Phoenix), as a member of the ArMA Ad Hoc Liaison Committee with the Arizona Hospital Association.

The AMA House of Delegates in Clinical Session last held in Las Vegas, Nevada, adopted, as amended, Resolution No. 43, introduced by the California Delegation, reciting the following:

> "RESOLVED, that the American Medical Association recommend that each hospital should have at least one voting doctor of medicine on its Governing Board who, preferably, shall either be appointed or elected by the hospital medical staff from its membership; and be it further
>
> "RESOLVED, that such representation shall take place, wherever feasible."

Dr. Jarrett commented that it is felt by ArMA's Committee that something could be accomplished at the national level if AMA would meet with the American Hospital Association seeking the latter's cooperation by handing down information to the state hospital associations that it was not against the policy of AHA to have physician members on hospital boards of directors or trustees with the right to vote. Discussion ensued following outline of attempts made this past fiscal year on the part of ArMA's Committee to achieve for Arizona such recognition in all community hospitals, recognizing that some nineteen out of fifty-five hospitals do now have such representation.

Unless it is desirable on the part of this Association to introduce a resolution in the AMA House of Delegates expressing such desire, Dr. Hudson agreed, on official request from ArMA, to include the subject on the agenda of the next liaison meeting with the American Hospital Association. SO ORDERED.

Board of Directors

Board of Medical Examiners — Vacancy

The term of Zenas B. Noon, M.D. (Nogales-Santa Cruz), present member of the Board of Medical Examiners, State of Arizona, expires June 30, 1967.

Inasmuch as the Medicine and Surgery Act, Chapter 13, A.R.S., precludes reappointment of Dr. Noon at this time, John F. Kahle, M.D. (Flagstaff-Coconino), and Deward G. Moody, M.D. (Nogales-Santa Cruz), were nominated, the names of at least two candidates to be submitted to the Governor for his selection to fill the vacancy anticipated July 1, 1967, as prescribed by statute. It was directed that the Governor be so informed.

AMA Council on Voluntary Health Agencies — Meeting

Dr. Melick reported that he has served on the AMA Council on Voluntary Health Agencies for nearly three years and feels it is a worthwhile project which is to become thoroughly familiar with the various fund-raising activities of organizations such as, but not limited to, the National Foundation, Heart Association, Cancer Society, et al; determine the purpose of each and whether the money collected is actually being dispensed therefor; and establishing medical qualifications for recognition. It is recommended that this Association establish a similar local state committee to be known as the Council on Voluntary Health Agencies. The AMA Council is scheduled to meet in Scottsdale, February 2 and 3, 1968. It is anticipated there will be from four to eleven Western States in attendance. Appointment of an ArMA Council at this time would afford opportunity for it to become acquainted with the project and participate in the program February next. RECOMMENDATION NOTED.

Club Membership

On motion regularly made and unanimously carried, directed that the Central Office Advisory Committee investigate the matter and establish a satisfactory membership in a club or private organization deemed desirable to accomplish this purpose (to provide a facility for the President and possibly other officers of the Association to meet on legitimate ArMA business).

Southern District Director

Warren D. Eddy, Jr., M.D. (Tucson), Southern District Director, submits resignation as a member of the Board of Directors. No action required inasmuch as Dr. Eddy's term expires with this annual meeting and the House of Delegates will consider a replacement April 29, 1967.

Board of Directors of Pima County Medical Society advises that in meeting held April 17, 1967, it officially acted to submit the name of Alma K. Hansen, M.D., as a candidate for Southern District Director (1967-69), as a running mate with Dr. Herman S. Rhu, Jr. Such recommendation will, of necessity, be required to be made by nomination from the floor of the House of Delegates Saturday next. It was pointed out that Dr. Hansen is currently certified an Alternate Delegate from Pima Society, who is not eligible to run for office, excepting on recertification as a Delegate.

Articles of Incorporation and By-Laws Committee

On motion regularly made and unanimously carried, the problem of membership and dues be referred to the Articles of Incorporation and By-Laws Committee for study and then referral to the Board of Directors.

Benevolent and Loan Fund Committee

Dr. Cloud reported that he had received a letter dated April 19th from Robert M. Kirk, Manager, Members Retirement Section of the Management Services Division of AMA, stating that the consolidation of the ArMA Medical Student Loan Fund with the AMA-ERF Fund is progressing satisfactorily and it is expected to have a contract with the Valley National Bank signed shortly.

Federal Services Committee

Membership

Approved interim Presidential appointment of Derald G. May, M.D. (Phoenix), as member of the Federal Services Committee for the term 1967-70, to serve as chairman of its subcommittee on mental health legislation.

Accepted resignation of Sidney R. Kemberling, M.D. (Tucson), as a member of the Federal Services Committee serving as chairman of its subcommittee on Indian Health.

Title XIX Planning — Report

Dr. Steen reported on the activity of the Federal Services Committee and particularly the study undertaken as relates to Title XIX planning. He called upon Dr. Reed, chairman of the Title XIX subcommittee, to present his comments.

Dr. Reed states that he considers the plan developed to the point where it is ready for legal review dependent upon action taken by the Board. The plan, copies of which were presented to each Board member, is based upon the format suggested by the Department of Health, Education and Welfare. The outline is the result of conferences held by the Committee with the help of the State Board of Health and its advisors.

Of primary importance to the practicing physician are the eligibility standards outlined. The dollar amount has been left blank which would limit or describe those who are eligible. It is felt that this is a matter which should be left up to the Legislature. Exhibit "A", range $0 to $3200.00 provides for a family of four, which chart shows the projected program costs after predictable use factors are applied totalling $12,967,369.00. This would be Arizona's share in the program with the Federal share being approximately $23,000,000.00, or a total cost as projected by the statistician of $36,944,000.00. It would include the five basic coverages in addition to certain dental, optometric and drug costs. Arizona currently spends something in the neighborhood of $15,000,000.00. Any attempt to try and limit the number of those who might be covered has been avoided as this is considered the prerogative of the Legislature.

The "basic five" coverages include: "in-patient hospital services," "out-patient hospital services," "other laboratory and x-ray services," "skilled nursing services," and "physician services" wherever furnished. The law provides that these must be incorporated in any Title XIX legislation undertaken. In addition, essential "drugs" and "medical supplies" supplied by a licensed physician within the scope of his practice are included, as may be authorized by state law and recommended by a committee of physicians appointed by the Commissioner of the State Department of Health from a list of names to be furnished by the Arizona Medical Association and the Arizona Osteopathic Association.

Dental services, surgery related to the jaw or any structure contiguous to the jaw; or the reduction of any fracture of the jaw or any facial bones when provided by a practitioner who has been licensed to practice dentistry under the laws of the State or under comparable license or laws of other states, subject to prior authorization being obtained for repair and replacement of dentures from the State Health Department;

Optometric services and optometric materials for the correction of visual defect with eyeglasses prescribed by a physician skilled in diseases of the eye or by an optometrist licensed to practice optometry, whichever practice the individual patient may select, subject, however, to prior authorization being obtained from the State Health Department when eyeglasses are provided by a physician, optometrist or optician;

When prescribed by a licensed physician, licensed medical and nursing home care services for individuals twenty-one years of age or older;

When prescribed by a licensed, out-patient hospital diagnostic laboratory and x-ray services, and other diagnostic screening, preventive and rehabilitating services to an out-patient by a hospital or by others.

Exclusions are set forth in the report.

As regards method of payment, the usual and customary fee concept has been used. Payments for outpatient hospital services will be on this same basis in accordance with standards approved by the State Health Department, not to exceed the amount that would be charged in respect to patients who are not recipients of public assistance for a comparable service under comparable circumstances.

As to the future course of this Committee, providing it is the will of the Board or House of Delegates to appoint such a committee for the coming year, it was recommended:

1. That we have legal review of the plan to make sure of its proper legal approach;
2. That we send out a proposed letter to selected, interested individuals or group organizations, forwarding a copy of the plan, seeking comments and any changes recommended, setting a time limit of sixty days for response;
3. That the Title XIX subcommittee of the State Legislature be contacted by the ArMA Committee and its subcommittee in conjunction with its Legislative Committee.

It was regularly moved and unanimously carried that the report be accepted as presented.

It was determined to include on the agenda of the next Board meeting further recommendations of the Federal Services Committee dealing with (a) Indigent Medicare Patients — Assignments; (b) Medicare Fee Financed Foundations; and (c) recommendation of appointment of Charles P. Dries, M.D. (Phoenix) to membership on the Federal Services Committee to serve as chairman of the subcommittee on OEO programs. Regarding item (b), it was announced that two resolutions pertaining thereto will be introduced in the House of Delegates tomorrow.

Legislative Committee

Membership

Approved established staggered terms for previously appointed members to the Legislative Committee, i.e., Doctors Chester G. Bennett (Phoenix) 1966-69; C. Truman Davis (Mesa) 1966-68; Arthur V. Dudley, Jr. (Tucson) 1966-67; Richard O. Flynn (Tempe) 1966-69; Donald F. Griess (Tucson) 1966-69; Gordon J. Hippert (Tucson) 1966-68; Robert J. Oliver (Tucson) 1966-67; and Lowell C. Wormley (Phoenix) 1966-67.

Chapter 131, A.R.S. — 1967 Emergency Aid

Counsel reported briefly that the Association had before the State Legislature this year a Good Samaritan measure. The Legislature passed a bill, the wording of which was other than that included in the Association-supported measure and followed the Mississippi Act which had been endorsed by AMA. The Attorney General was asked to render an opinion on whether the Act, passed by the Legislature, is constitutional. It was declared unconstitutional in which Counsel agreed for the reason that it removed one segment of the public — namely those who would be present at the scene of an accident, whether they would be physicians or not, from ordinary negligence liability, and there is a specific provision in the Constitution which says that you may not relieve any particular group from liability. The bill of the Legislature is now law until it is contested in the Courts. It will serve as a deterrent to people who do not understand it well.

Professional Committee

AMA Nursing Conference

Designated William G. Payne, M.D. (Tempe) and Dermont W. Melick, M.D. (Phoenix), alternate, to represent this Association at the scheduled nursing conference sponsored by the AMA Committee on Nursing to be held in Chicago, October 6, 1967.

Medical Education — Millis Report

Dr. Melick stated that all should by now have heard of the Millis Report dealing with the family primary physician concept. It is one of three other reports referable to the subject reviewed quite thoroughly by the Section on Medical Education of the Professional Committee. A resolution will be introduced in the House tomorrow wherein it is concluded that the Millis Report be approved in spirit; however, a resolution condemning it or giving unqualified support appears not in order at this time.

Membership

Approved interim Presidential appointment of Robert J. Antos, M.D. (Phoenix), as a member of the Professional Committee for the term 1967-70, to serve as chairman of the **Section on Poison Control,** recently reactivated.

Approved interim Presidential appointment of Robert S. Ganelin, M.D. (Phoenix), as a member of the Professional Committee for the term ending in 1967 to fill a vacancy and serve as chairman of the **Section on Public Health.**

Safety — Automotive Crash Injury Research Program

Approved Association participation in the proposed Arizona-Cornell Automotive Crash Injury Research Program, a proposed study of injury producing passenger car accidents in this State including districts in Phoenix, Holbrook, Claypool, Tucson, Flagstaff, Nogales and Kingman. Other participating organizations are the Arizona Highway Patrol, the Arizona State Department of Health, and the Arizona Hospital Association. The project has the endorsement of the Section on Safety of the Professional Committee and is, to some degree, similar to that successfully conducted in Arizona by Cornell several years ago.

Disaster Medicine — Immunization

Dr. Baker reported on the national adult and pediatric immunization program inaugurated. Elimination of measles has been chosen a project for 1967. A plan has been developed for Arizona, primarily a private medical practitioner's program, encompassing tetanus, smallpox and diphtheria in adults in addition to measles in both adult and child. The May issue of ARIZONA MEDICINE will be devoted to immunization initiating the program. A professional public relations educational program is planned to be concluded by July 1967, emphasizing both the present need for immunization and its importance as a life-time continuing program, stressing the part of the practitioner's office as the primary site for this accomplishment. The schedule projects commencement in late August 1967, to continue toward a peak level over a period of from eight to twelve weeks. Active participation by the Arizona Pharmaceutical Association, members of state and county medical societies, Arizona Hospital Association, Arizona State Nurses' Association, and county and state public health departments is anticipated. Estimated total cost of the public relations campaign is $11,000.00.

Authorized an additional $10,000.00 appropriated to the Professional Committee for this immunization project, a sum of $1,000.00 having been previously appropriated therefor; and approved the program.

Board of Health — Premature Infants

Dr. Yount, Jr., as President of the Arizona State Board of Health, presented for discussion the special demonstration project for the passport and care of premature infants being organized by its Department of Maternal and Child Health. The hiring of a neonatologist or consultant (pediatrician) part time for the project by the State is the point in question as to the desirability and cost. Reference was made to the costly obstetrical and gynecological program in Pinal County based upon the number of people to benefit. To be eligible for this new project, babies must be from outside the metropolitan Phoenix area, since the project is aimed at sparsely settled areas in Arizona where hospital equipment facilities and trained teams for the care of the premature are not readily available. The question: does this Association favor the Health Department proceeding with this project, and others may present themselves, in which instance the department may hire doctors who will go out and practice medicine in the community. MATTER TABLED.

Woman's Auxilary

Program of the Woman's Auxiliary for 1967-68 and estimated budget, including an appropriation of $1,000.00 anticipated to be received from the Association, presented by Mrs. E. B. Jolley, President-Elect. RECEIVED.

Public Relations Committee

Martin G. Fronske, M.D. (Flagstaff), expresses appreciation for having been nominated to receive the A. H. Robins Community Service Award. RECEIVED.

Scientific Assembly Committee

Camelback Inn (Scottsdale) extends invitation to host this Association's 1968 annual meeting (choice: 4/23-27; 10/8-12; 11/5-9) and/or the 1969 meeting (choice: 4/22-26). REFERRED TO COMMITTEE.

Communications

SAMA — Membership

Student American Medical Association expresses thanks for ArMA sustaining membership subscription. RECEIVED.

Family of Lindsay E. Beaton, M.D.

The family of Lindsay E. Beaton, M.D., expresses appreciation for kind expression of sympathy by this Association. RECEIVED.

Anatomical Board

Philip H. Krutzsch, Ph.D., Professor and Head of Department of Anatomy, University of Arizona College of Medicine, expresses appreciation for audience granted him January twenty-ninth and enthusiasm and support demonstrated by the Board of Directors in the operating procedures of the Anatomy Board. RECEIVED.

Staff Bonus

Inadvertently omitted from the agenda of the January Board meeting, staff of the Central Office expresses grateful appreciation for the thoughtfulness of the remembrance at Christmas time. RECEIVED.

Utah State Medical Association

Utah State Medical Association expresses disagreement with the AMA House of Delegates' action to rescind the receipted-bill clause of the Medicare law. A resolution is intended to be introduced at the forthcoming annual meeting in Atlantic City to reverse this decision.

It was regularly moved an unanimously carried that the ArMA Delegates to AMA be instructed to support the Utah position when it comes up at the AMA meeting in Atlantic City.

Other Business

Museum of Pioneer Medicine

Dr. Dysterheft presented a letter dated March fifteenth, received from Carl E. Behle, Director, Public and Professional Relations, Arizona Blue Shield, suggesting the creation of a Museum of Pioneer Medicine in Arizona, as a joint project, offering his assistance.

It was regularly moved and unanimously carried that this matter be referred to the History and Obituaries Committee for study and report to this Board.

Publishing Committee

Dr. Schoen reported upon the meeting of his Publishing Committee held Sunday last presenting two items of business directed referred to this Board for consideration, each involving the Medical Society of the United States and Mexico, (1) dealing with subscription to ARIZONA MEDICINE by the doctors of Mexico, and (2) reference of that society in the masthead of ARIZONA MEDICINE.

It was regularly moved and unanimously carried that the members of the Medical Society of the United States and Mexico (non-members of ArMA) be asked to subscribe to ARIZONA MEDICINE paying the subscription fee which is currently $5.00.

Determined to table, at least for the present, decision to remove from the ARIZONA MEDICINE journal masthead reference to the Medical Society of the United States and Mexico.

Chairman Comments

Dr. Dudley expressed to the Board, this being his last act as chairman, "I wish to thank each and every member of the Board, the executive staff and the girls behind the executive staff that are in attendance. It has been my pleasure to represent you and I wish to thank you all for your most diligent efforts."

MEETING ADJOURNED AT 12:01 A.M.

Charles E. Henderson, M.D.
Secretary

BOARD OF DIRECTORS

Meeting of the Board of Directors of The Arizona Medical Association, Inc., held Sunday, May 21, 1967, in the Convention Center of the Safari Hotel, Scottsdale, Arizona, convened at 10:10 a.m., Arnold H. Dysterheft, M.D., President and Acting Chairman, presiding.

Roll Call

PRESENT: Drs. Beckwith, Harry S.; Brooks, Jack E.; Dew, Philip E.; Dudley, Jr., Arthur V., President-Elect; Dysterheft, Arnold H., President; Finke, Howard W.; Flynn, Richard O., Vice President; Grobe, James L.; Heileman, John P., Secretary; Henderson, Charles E.; Jarrett, Paul B.; Landeen, Fred H., Treasurer; Melick, Dermont W.; Moody, Deward G.; Price, Robert A.; Rhu, Jr., Hermann S.; Sattenspiel, Edward; Schoen, Roland F.; Standifer, John J.; Steen, William B.; Young, Woodson C.

Counsel: Mr. Jacobson, Edward.

Staff: Messrs. Carpenter, Robert, Executive Secretary, ArMA; Robinson, Bruce E., Assistant Executive Secretary, ArMA; Boykin, Paul R., Executive Secretary, BOMEX.

Guests: Messrs. Blazek, James J., Administrator, Phoenix Medicare Claim Administration, Aetna; Stewart, Robert E., Assistant Secretary, Aetna; Dr. Chesser, Ian M., Chairman, Medical Economics Committee, ArMA; Mr. Fisher, Charles A., Insurance Broker; Mr. Bromley, Jr., John R., Vice President and Trust Officer, Guaranty Bank.

EXCUSED: Drs. Cloud, Daniel T.; Derickson, Philip G.; Dexter, Richard L.

Welcome

The President and Acting Chairman, Dr. Arnold H. Dysterheft, in behalf of the Board of Directors, extended a cordial welcome to and introduced the newly elected members to this Board: Drs. Philip E. Dew (Tucson), Southern District Director; James L. Grobe (Phoenix), Central District Director; John P. Heileman (Phoenix), Secretary; Edward Sattenspiel (Phoenix), Central District Director; John J. Standifer (Kingman), Northwestern District Director; and Woodson C. Young (Phoenix), Central District Director.

Board Organization

Richard O. Flynn, M.D., Vice President, was duly nominated and elected by acclamation Chairman of the Board of Directors for 1967-68. He assumed the Chair at this point.

Minutes

Approved minutes of the meeting of the Board of Directors held April 25, 1967.

Aetna Life and Casualty Company — Medicare

CHAIRMAN:

We have with us this morning representatives of the Aetna Life and Casualty Company, Intermediary for Medicare (Public Law 89-97, Title XVIII, Part B) who have sought an audience with this Board, the result of action of our House of Delegates, April 29, 1967. Most of us know Mr. James J. Blazek, Administrator of the Phoenix Medicare Claim Administration of Aetna, and with him is Mr. Robert E. Stewart, Assistant Secretary of Aetna. I will call upon Mr. Blazek to open the discussion. Mr. Blazek.

MR. BLAZEK:

I have been asked to speak to you following the results of Resolution No. 10 (1966) asking for another Carrier. I would like to introduce to you Mr. Stewart, our Assistant Secretary, who is in charge of all of the states in which Aetna has Medicare Offices. Mr. Stewart.

MR. STEWART:

Referring to the resolution recently passed by your House of Delegates whereby the State Association now requests the Department of HEW to replace Aetna Life and Casualty as Medicare Part B Administrator in Arizona, and at the earliest possible moment, we have asked ourselves time and again where we failed the doctors of Arizona. Perhaps we have been too obsessed with providing good claim service, and maybe we have overlooked something along the way. In any event, we have not yet come up with an answer to our satisfaction. Therefore I am in hopes that you will be able to give us some clues as to where we have gone astray, so that we can try to live up to your expectations during whatever time we have left.

Reviewing our administration of the Medicare Program Part B in Arizona, since its inception in July of 1966, when we started out, we had to make plans to staff an office to work our procedures, etc., well in advance of July, 1966. So, about March or April, we had to come to some conclusions as to type of office procedures we would follow, even though at that time it wasn't clear as to what the workload volume would be, and what regulations the Social Security Administration would hand down to guide the various Carriers. Indeed, many of the regulations that were made by the SSA have had to do with the actual processing of claims and were not released until well after July first, and when they were released, they were changed time and again requiring changes in our various procedures. On the basis of original estimates given to us by SSA as to the volume of work and their procedures, we figured that we would need twenty-seven people in Arizona to handle the claims for beneficiaries in Arizona under Part B. It may interest you to know that, at the present time, we have ninety-four. This rapid expansion was a problem, for when you find yourself with twenty-seven or thirty people according to your original estimate and the claims start increasing overnight, you can't go out and just hire an additional seventy people today and have them come in tomorrow and process all of these claims the way they are supposed to be processed. So we had the problem of recruiting, of getting additional office space, of getting additional equipment, etc., and at the same time, try to keep the backlog of claims from building to proportions that were impossible. I can say now that the backlog was increasing considerably, and by January 1967, our Phoenix Office had something like twenty thousand bills that were unprocessed. All this time we were training new people in an effort to keep the backlog from growing bigger and to reduce it as fast as possible. We called upon people from other offices that we have throughout the country. In November and December, we brought in thirteen to fifteen people at various times from other offices throughout the country; trained to help streamline their procedures so that we could give these people things to do that would not be too technical so that we could use the people that we had already trained for the more technical aspects of processing claims. Christmas and New Year's were coming up, so we sent these people home; however, the first week in January we brought in another crew of them. They were here for the entire month of January. In February, we brought back another crew of fifteen people; all the time, trying to reduce this backlog and get our claim payments on a current basis. By the end of February, we were about as current as we could possibly be and operate within the framework that SSA had set down for Carriers to operate under.

You might be interested in a letter that is written to John Hill, President of Aetna Life Insurance Company, on April 5, 1967, from the Department of HEW. I would like to read it to you. "Dear Mr. Hill: In our haste to release contract renewal letters a week before the notice-of-intent date of April 2, we omitted stating in our letter of March 25 that your number of weeks of work on hand, 1.5 weeks, was among the lowest in the country, and that the percentage of claims pending over thirty days was only 17.8 percent as compared to the national average of 24.5 at the end of February. We are very gratified by the achievement of your Medicare Operation as reflected by these two important indexes. Sincerely yours, Arthur Hess, Director — Bureau of Health Insurance."

We did work hard. I think that we were fortunate and had it over some other Carriers in that we were able to draw on personnel of some one hundred and thirty claim offices throughout the country to come in and get us out of a jam. This is nothing new to us, of course. We do transport our personnel into any office from any office in cases of emergency, and this is what we did.

Since February, the office here in Phoenix has been operating between one and two weeks. Assuming there is a clean claim, we are paying them in from one to two weeks from the time that they are received. It will probably never be possible, under the existing procedures, to pay a claim in much less than five days, and I would like to tell you a little bit why this is so. You have got to understand the procedure. When a bill comes in from a physician or from a beneficiary, a Carrier must query Baltimore as to the status of the beneficiary's coverage — whether he is eligible in the first place, and, if he is eligible, what the status of his deductible is. Let's assume that a claim comes in our office on Monday. We then have to prepare a coded sheet that is put on the teletype machine in our office which is linked direct to Baltimore. Say that this goes in on Monday; it is received in Baltimore in the evening; and shortly after it is received, they search their master records to determine eligibility and the status. This procedure in the beginning was taking, by the time that we got our reply back from Baltimore, anywhere from one week to a week and a half, to just get the reply back, because of the massiveness of this program, as they were getting these requests from every Carrier in the country, and they had their problems straightening out their programming in order to get the replies back. This has improved; but, even now, it is taking anywhere from three to four days to get a reply back from Baltimore. So the claim comes in on Monday and we question Baltimore. We aren't going to know what the status of this person's coverage and deductible is under the most favorable conditions until about Thursday. As soon as we get it, if we get right on it, we aren't to get that draft out to the physician of the beneficiary until probably Friday. This is under the very best of conditions. Now, this is the procedure; so that when we say that we are (In Mr. Hess's letter) — that we are 1.5 weeks behind, when you subtract the minimum time of one week from that, we still are operating about three to five days behind schedule. Of course, if you have already processed a deductible, then you can process the claim as soon as you get it, and I believe those are going out about three to five days from the date they are received — anyway, within a week. I wanted you to know a little bit about what the processing procedure was.

We also, as you know, when we started out on this program, we asked from your Association to recommend some doctors that we could use as consultants, because we felt that it is important that the medical profession have a part in determining questionable cases. This is certainly much better than having a third-party carrier decide unilaterally that this is proper, or isn't proper, or this or that charge is too high or low, etc. We have used consultants that have been recommended by your Association and by the various County Societies on many occasions, and we are most grateful for the cooperation that they have given us. You also set up Review Committees to assist us on the real tough cases, and we have not found it necessary to review with the Committee — usually in talking with the consultant and by talking with the doctors themselves, we have been able to resolve the questionable issues without taking it so far as the Review Committee.

Considering all of this, then, it is most difficult to understand your request that we depart from the Medicare scene in Arizona. It seems to us that we have done everything that we can think of to bring good administration to the doctors and beneficiaries of Arizona, and yet it seems to us that you have seen fit to vote out a Carrier that is paying claims about as fast as any Carrier in the country and faster than most of them. You have also decided to vote out a Carrier who, in its Part A operations, and we do operate in Part A, is probably making payment to hospitals, full health agencies, and extended care facilities quicker than any Carrier in the country. SSA has not released figures, but on Part A we are paying claims to hospitals on an average of within two to four days from the date the bill is received. If anyone doubts that, I would be very glad to give you a list of every hospital, nursing home, health agency that we are serving throughout the country, and you may take it upon yourself to write them and ask them what service they are getting from us. I mention the Part A only because of your resolution. In considering another Carrier, you were doing so, under the reasons given, because of the satisfactory job this Carrier was doing for hospitals in the State of Arizona. I am sure that he is doing a very satisfactory job, but I challenge that Carrier to say that he is paying claims to Arizona hospitals faster than we are paying to the hospitals, nursing homes, health agencies, etc. You have also seen fit to vote out the largest commercial writer of health coverages in the world. This is the station that Aetna Life and Casualty enjoys, and I suggest to you that we do not enjoy this station because of inferior services to the public that we serve. You have also seen fit to vote out a company that pioneered the concept of usual and customary type insurance plans; and, finally, you have voted out a Carrier that, along with the Medical Association, fought against the Medicare legislation down to the bitter end. What is done is done. We are very sorry. We are perplexed. All we hope is that either today or after your meeting today, you can give us some idea as to where we can improve. In closing, let me say this morning, as Director of Medicare Operations, I respectfully ask you: Gentlemen, how did we stall?

DR. DYSTERHEFT:

We thank you, Mr. Stewart, for coming. As you know, we have a Federal (now Governmental) Services Committee that meets, and you are surely invited to all of our meetings, and I urge you to attend.

MR. STEWART AND MR. BLAZEK LEFT THE MEETING AT THIS POINT.

Considerable discussion ensued. Past experiences throughout the state were recited, many of which were not favorable toward the Carrier. This Association initially recommended to HEW the appointment of Blue Shield as the Carrier. It was considered improper for Maricopa County Medical Society to act unilaterally, as it did, recommending another Carrier. In any event, the House has spoken.

Professional Committee

Perinatal and Maternal Mortality Subcommittee of the Public Health Subcommittee

Hermann S. Rhu, Jr., M.D., Chairman of the Subcommittee on Perinatal and Maternal Mortality of the Subcommittee on Public Health of the Professional Committee, requested that consideration be given to the establishment of his Subcommittee (Perinatal and Maternal Mortality) as a separate and independent committee. A motion was made and seconded that this be done. The Chair ruled, however, that such motion was not proper, and he directed that the matter be referred to the Articles of Incorporation and By-Laws Committee for study.

Arizona Council on Voluntary Health Agencies

DR. MELICK:

I am not sure where this should be — if it is a subcommittee. I presume it might be a Subcommittee of the Professional Committee; however, this is a worthwhile activity, and I think it would help all of the citizens of the State of Arizona, especially the Medical Association, to get down to basic brass tacks with not only the Voluntary Health Associations we have in the State, such as the Heart Association, Cancer, etc., so that they can give us an account of what they are doing, but it shall be in conformity with their medical criteria. I have never brought this before this Association before because, for the last two and one-half years, we have been working on it, trying to get something basic to start with, so that we can actually control these people who want to get out and raise funds for most anything you can think of, plus the fact that those that are in the field should be looked at with a critical eye occasionally. I would suggest, therefore, that a subcommittee be set up under the Professional Committee, a committee of three or five members to be called whatever you want to call it, that has to do with the voluntary associations. Whether or not this is done, the AMA Council is going to meet here next February, and we are inviting all of the men in the Western States to send representatives into Phoenix in order to hope that their associations will do the same thing that I hope will be done here today. I'm the only representative of this Council west of the Mississippi, and most of the states west of the Mississippi have not, so far, set up these Councils; but, the Councils that are set up are working real well — Florida and Indiana. The man who sits on the Council from Florida has a great deal of information; also, the man from Indiana has a great deal of information which could be brought to this February meeting. You and I have, over a period of years, always wondered what they did with their money and why we endorsed some and not others, and, especially, these fly-by-night people who come in here and collect money and God knows where it goes. I think it is really a worthwhile activity, and I hope that you will accept this suggestion. This is the AMA Council on Health Agencies.

It was regularly moved and unanimously carried that a subcommittee be appointed as a Subcommittee of the Medical Economics Committee.

Benevolent and Loan Fund Committee

It was reported that a contribution of $10.00 was received from Samuel L. Cohen, M.D., in memory of the passing of the mother of Carl J. Freund, M.D., to be deposited in the Benevolent and Loan Fund of this Association. A letter expressing appreciation and thanks for this contribution has been forwarded. RECEIVED.

Central Office Advisory Committee

Financial Report

Dr. Landeen reviewed the financial report covering the first four months of this year to and including April 30, 1967, reciting total "REVENUES" received amounting to $159,563.00 ($197,658.00 budgeted) and "EXPENDITURES" of $56,895.42 ($204,795.28 budgeted, as amended).

This Board has determined upon a course of deficit spending during the early months of this year. The Treasurer cautioned the Board to take a good look at its financial position in the light of such deficit spending and, from here on out, take an extremely careful attitude on the further spending of money that we do not have.

To meet existing deficits, the following additional appropriations were authorized:

521	Audit	$293.00
500z	Resolution No. 15 (Committee)	300.00

Accepted the report of the Treasurer.

Membership Classifications

MARICOPA Charles B. Huestis, M.D. (Phoenix) — Service (one-quarter dues), granted Service (dues exempt account 70 years of age), effective January 1, 1968.

Governmental Services Committee

The Board of Directors, in meeting held April 25, 1967, because of the lateness of the hour, determined to include on the agenda of its next meeting certain recommendations received from its then Ad Hoc Committee on Federal Services. They are herein listed below:

1. **Indigent Medicare Patients — Assignments**

   Recommends to the Board of Directors and urges their approval that, in cases of patients whose medical care is the responsiiblity of the county, state or city government and who are also eligible for Medicare benefits, the accepting of assignments by the physician for eighty percent of his fees be approved; and that the county, state or city government be responsible for the balance of the fee (deductibles and co-insurance).

2. **Medicare Fee Financed Foundations**

   Recommends that the Arizona Medical Association establish a state-wide, non-profit foundation with autonomous county chapters which would receive Medicare fees for indigent Medicare patients, and fees paid for services on Utilization Review Committees, and from other sources, the foundation to carry out the collection aspects of the program. Each doctor would choose whether or not the funds collected would stay in the foundation to support its programs or were to be turned over to him. This recommendation was included in House Substitute Resolution numbered 20 and 21, adopted April 29, 1967.

   Recommends that the Arizona Medical Association should provide legal and other assistance to establish this foundation and chapters, likewise included in House Substitute Resolution numbered 20 and 21, adopted April 29, 1967.

   Recommends that each county chapter should set the fee that its members should charge hospitals for the time spent on Utilization Review Committee work. This fee should be based on a time-dollar factor, plus percentage of Medicare patient occupancy.

   Recommends that county chapters bill hospitals for services on an itemized basis for each individual to provide doctors correct tax information, and also each physician may then elect to contribute or keep his fee.

   Recommends that an explanatory letter from the Arizona Medical Association be directed to the presidents of the county medical societies and physicians serving as Chiefs of Staff in hospitals, stating that it is the Association's decision that doctors be paid for serving on utilization committees and in hospitals and clinics caring for Medicare patients.

It was regularly moved and unanimously carried that the report of the Governmental Services Committee be accepted. A further motion that this report be implemented lacked a second.

A further recommendation that Charles P. Dries, M.D. (Phoenix) be appointed a member of the Governmental Services Committee, to serve as Chairman of its Subcommittee on OEO Programs, was referred back to the Committee for attention. Dr. Dries has accepted the appointment to serve as a member on the Committee; however, he declined acceptance of the Chairmanship.

Scientific Assembly Committee

Communications were received from Robert W. Virtue, M.D., Professor of Anesthesiology, University of Colorado Medical Center; James S. Miles, M.D., Professor and Head of Division of Orthopedics, University of Colorado Medical Center; and C. Wesley Eisele, M.D., Associate Dean, Postgraduate Medical Education, University of

Colorado Medical Center, each expressing appreciation for the hospitality extended to them during their participation in the Scientific Section of the Annual Meeting of this Association. RECEIVED.

Communications

AMA-ERF Donation

Merlin K. DuVal, M.D., Dean, College of Medicine, University of Arizona, expresses appreciation for the AMA-ERF donation to the College of Medicine in the sum of $6,440.64. RECEIVED.

Arizona Chapter — American College of Surgeons

Presented by the Arizona Chapter of the American College of Surgeons and read was a resolution commending Paul B. Jarrett, M.D., immediate Past President of ArMA, and extending its appreciation for his past diligent and tireless efforts on behalf of the College, the Maricopa County Medical Society, and the Arizona Medical Association. RECEIVED.

Student American Medical Association

Merlin K. DuVal, M.D., Dean, College of Medicine, University of Arizona, acknowledges receipt of a copy of Resolution No. 2, adopted by the House of Delegates of this Association in Annual Meeting held April 29, 1967, encouraging the formation of a chapter of the Student American Medical Association on the campus of the College of Medicine at the earliest opportune time, and assures the membership that the College will do its part to see that the wishes are known among the student body. RECEIVED.

AMA President

Mrs. Ruth Hudson, in behalf of Charles L. Hudson, M.D., President of the American Medical Association, expresses their grateful appreciation for the hospitality extended to them during their visitation during the 76th Annual Meeting of this Association. RECEIVED.

Other Business

Physicians on Hospital Boards of Directors

Dr. Melick introduced the following resolution and moved for its adoption:

WHEREAS, the Arizona Medical Association and the California Medical Association have passed resolutions to the effect that the boards of directors of all hospitals should have as members one or more physicians with full voting privileges; and

WHEREAS, the American Medical Association has endorsed these resolutions by action of its House of Delegates; and

WHEREAS, The American College of Surgeons is on record as recommending that physicians serve on hospital boards of directors; and

WHEREAS, both the American Medical Association and the American College of Surgeons are full voting members of the Joint Commission on Accreditation of hospitals; therefore be it

RESOLVED, that a requirement of accreditation of hospitals shall hereafter be dependent on, as one of the requirements, that each hospital shall give evidence of having one or more physicians on their board of directors with full voting privileges.

It was regularly moved and unanimously carried that this resolution be adopted.

Employee Leave of Absence

It was regularly moved and unanimously carried that this Board approve a leave of absence for Paul R. Boykin.

Club Membership

Disapproved, at this time, the acquisition of club membership for Officers of the Association.

Comprehensive Area Planning

DR. BROOKS:

> I would like to speak of something that a number of the members here are acquainted with. This is concerning the Area Planning situation here in the city. I am not too clear on the exact legislation, but there is Federal legislation that has passed (89-749). Appropriations have not been passed yet to set up Planning Boards in the various states. These Boards will be appointed by the Governor, and at the moment there is some confusion as to who will be in charge, who will comprise the Board here in the state of Arizona. There have been two reports received. One was that the Board would be made up by the Department of Health, and the other was that there would be included the Children's Colony and one other group, the Arizona State Hospital Board, in addition to the Chairman of the Board of Health. This is what came out of the report in the papers. In addition, there will be an Advisory Board of twenty-five members that are supposed to represent the various segments of the community in which Medicine would have only one small representation, if any at all. The law states that the majority is to be comprised of consumer groups. This removes the hospital people. The reason I bring this up is because in Maricopa County we have what is called a Health Planning Facility Council, and on our Planning Council we have very definite medical representation. We have six physician members on this board and this is what we hope to continue. In the past two weeks there has been a move that the Community Council take into consideration the type of action that is being taken in setting up the Advisory Board to the State Board in that the majority of representation should be the consumer, and they hope to have a meeting in which they will call all interested parties. And, actually, the statement is, in setting out the alarm, they have already received requests from one hundred and twenty-five groups who want to be represented on the Area Planning Council. As you can see, any society is going to have equal representation with the Medical Society, and to summarize this, I think that it would be of help if the State Society issued an expression that it is their feeling that the existing Planning Council has now been in operation for a number of years and has full-time staff and has been doing the job and actually is ready to take over this role. The bill says that wherever there exists a Planning Council, that they can be continued on. So I would urge that our Society express itself to the Phoenix Community Council and to the Planning Council of Maricopa concerning this matter.

Discussion ensued.

It was regularly moved and unanimously carried that the President, Dr. Dysterheft, write a letter to the

Governor reminding him of the previous correspondence and again asking him to appoint the Arizona State Department of Health as the sole administration agency in accordance with the provisions of the law.

It was regularly moved and unanimously carried that this Association exert all the influence it can to utilize any presently existing Planning Councils as the Area Planning Council to conform with existing legislation; and that physican representation be continued; and that it be continued in other committees throughout the state to be formed in the state.

Retirement Plan

DR. CHESSER

I am not appearing here today as an insurance salesman. I am here today, however, to ask your approval of a plan which we have evolved involving the Keogh legislation, or the fuel bill as it was better known, which would give us retirement benefits with some attached advantages. I have with me this morning Mr. Charles A. Fisher, who is our broker of record to investigate and recommend and work with us on these insurance problems; also, Mr. John R. Bromley, Jr., Vice President and Trust Officer of the Guaranty Bank. There is not an insurance man in Arizona or Phoenix who would not like to be in the position that Mr. Fisher is in, and, in fact, since his appointment as broker of record, the insurance people have been showing up from all over the place who have little or no interest in this organization or the economic problems of physicians, who now want to get in on the gravy train. Similarly, at the time we began the original investigation of this, there was only one bank that was interested, and this was the Guaranty Bank. In recent weeks, the Southern Arizona Bank and the Valley Bank have become interested because they apparently are being carried along with the times. Some urgency to this is that many members of the Association, to my knowledge, are already investing in HR-10 programs as individuals. As a result of our investigation, we feel that the individual approach to the HR-10 program is not in the best interest of the physician, financially at least, because it severely limits him in what he does, and Mr. Bromley and Mr. Fisher are going to point this out briefly to you. In the last six or eight months working with Mr. Fisher, seeing the tremendous amount of time he has put into this program even to the point of ignoring some of his own private practice as a certified life underwriter, I have every confidence in him, and I have found him to be willing to sit down and explain any of the points which an ignorant sometimes doesn't know about insurance. If this is on an individual basis, it places us all in the position of being consumers of a material which we don't know too much about — that is, most of us. To have the abilities of Mr. Fisher behind us as well as Mr. Bromley as Trust Officer of the Guaranty Bank, gives us a tremendous advantage. It also gives us the advantage of volume, and as long as the volume is high enough, then, of course, our cost rate for investment dollars decreases. In discussion of this, Mr. Fisher and I came up with a plan which we have chosen to call the ARMADA Plan. This came about because ArMA is our Association and DA is the Dental Association. We hope to have this combined under a single trust with the Dental Association so that it would represent the ArMA and the Dental Association to increase the volume of the dollar invested. Whether or not this would be a combined plan would depend somewhat on your pleasure and on the pleasure of the Dental Association. I would like Mr. Fisher to briefly state the points.

Both Mr. Fisher and Mr. Bromley reviewed the proposed program, submitted charts and more detailed information for review and submitted to questions. Following the latter, both Mr. Fisher and Mr. Bromley were excused from the meeting, and it was determined to adjourn for luncheon during which further discussion in this regard would be held.

During the luncheon, considerable discussion ensued. Of most concern to the Board was the fact that the proposed program had not been considered by the Medical Economics Committee and had only the support of its Chairman. While the Board expressed confidence in its Chairman, it was pointed out to him that it is not customary in presenting a plan of this magnitude to receive it without committee deliberation and recommendation.

It was regularly moved and carried that this Board of Directors approve in principle the plan submitted by Dr. Chesser, Mr. Bromley and Mr. Fisher, subject to legal opinion of qualification of the plan submitted to the Arizona Medical Association.

MEETING ADJOURNED AT 2:00 P.M.

John P. Heileman, M.D.
Secretary

ERRATA

June 1967 issue, page 516, Resolution No. 12: FOR Introduced by The Maricopa County Delegation; Subject: Usual and Customary Fees—Arizona Blue Shield READ Introduced by Chester G. Bennett, M.D., Delegate, on behalf of the Arizona Ophthalmological Society, Sponsor of the Resolution; Subject: Certification of Medical Necessity for Hospitalization of Medicare Patients.

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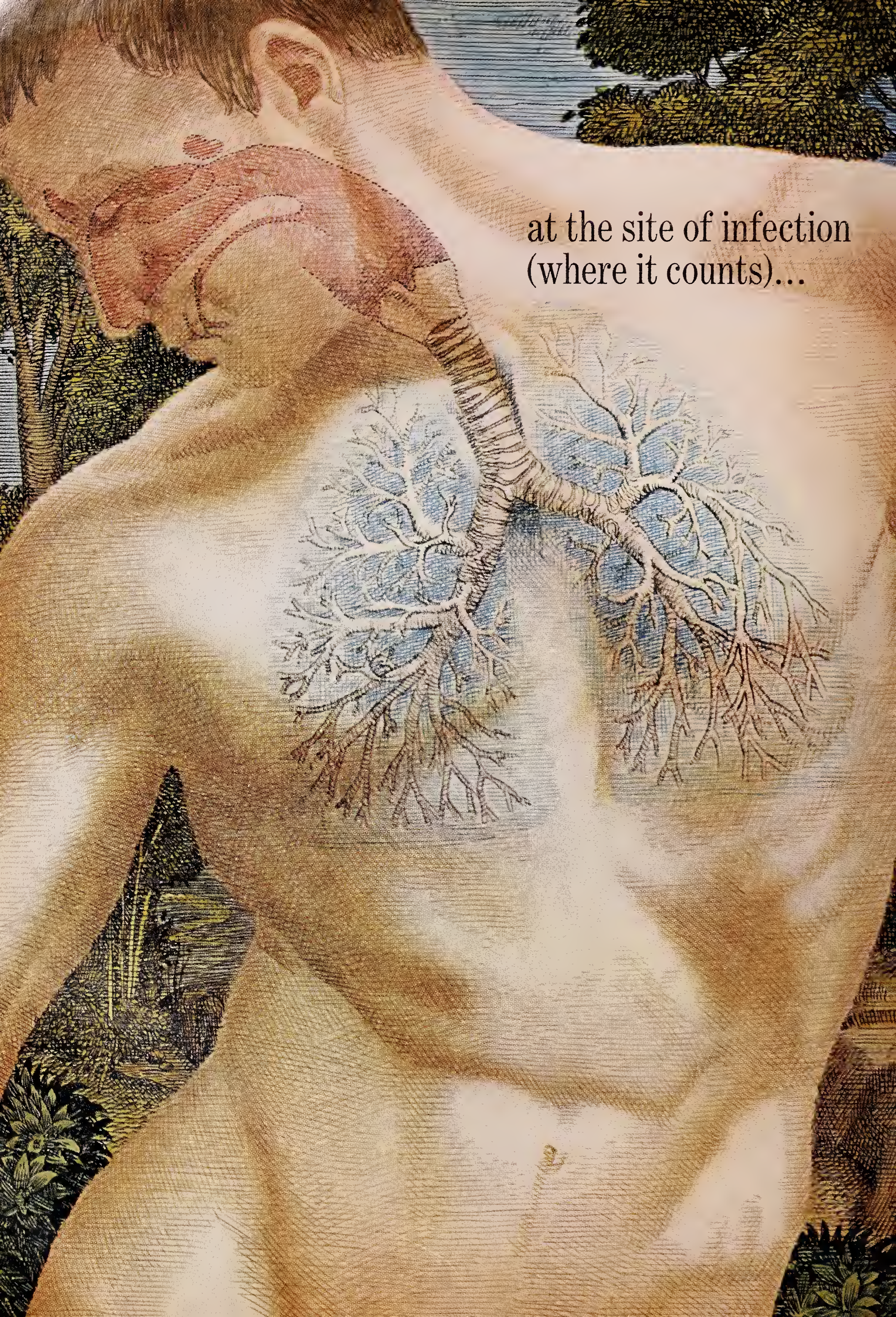
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Ilosone has shown no cross-resistance with penicillin and may be effective against organisms that have become resistant to that agent. Despite its high antibacterial activity, Ilosone has demonstrated a low incidence of side reactions. Blood dyscrasias, ototoxicity, and tooth staining have not been observed. Infrequent cases of drug idiosyncrasy, manifested by a cholestatic jaundice, have occurred, but there have been no known definite residual effects.

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Indications: Ilosone is indicated in infections caused by microorganisms sensitive to its action (especially staphylococci, hemolytic streptococci, and pneumococci). The drug is therefore useful in a high proportion of bacterial diseases encountered in clinical practice and particularly in the treatment of bacterial infections of the upper and lower respiratory tract and soft tissues.

In the treatment of acute bacterial pharyngitis and tonsillitis, this antibiotic has promptly eradicated the bacteria (streptococci) and has produced a parallel prompt clinical improvement. There have been no group A beta-hemolytic streptococci resistant to this preparation. In beta-hemolytic streptococcus infections, treatment should be maintained for ten days to prevent the development of rheumatic fever or glomerulonephritis.

Erythromycin estolate has proved to be very effective in pneumococcus pneumonia and in acute bronchitis with pneumococci on culture. Bronchopneumonia and otitis media in children have responded well to its use.

The antibiotic has been used very successfully in staphylococcus infections. Good therapeutic results have been obtained in soft-tissue infections, abscesses, cellulitis, carbuncles, wound infections, and furunculosis.

In serious staphylococcus infections, erythromycin preparations should be used only in combination therapy with other antimicrobial agents. As is the case with any treatment regimen used in these severe conditions, surgical procedures should be performed when indicated, and large dosages of the antimicrobial agents should be employed. In this fashion, Ilosone has been effective in staphylococcus pneumonia, osteomyelitis, septicemia, empyema, and meningitis.

Multiple 500-mg. doses of the drug have also been useful in gonorrhea and syphilis. Since penicillin is the drug of choice for the treatment of syphilis and gonorrhea, erythromycin estolate should be employed for these infections only in patients with a history of penicillin allergy. Also, other infections due to susceptible bacteria in patients known to be hypersensitive to penicillin or other antibiotics may be considered for treatment with Ilosone.

Contraindications: Ilosone is contraindicated in patients with a known history of sensitivity to this drug and in those with preexisting liver disease or dysfunction.

Adverse Reactions: Data obtained from seven years' use of propionyl erythromycin ester and erythromycin estolate (Ilosone) indicate that hepatic dysfunction with or without clinical jaundice may occur during or following courses of therapy with the drug.

Changes in liver function tests in such cases have been indicative of intrahepatic cholestasis. The symptoms appear to be the result of a form of sensitization. The initial symptoms have developed in some cases after a few days of treatment but generally have followed one or two weeks of continuous therapy or several courses of the drug. Symptoms reappear promptly, usually within forty-eight hours, if the drug is readministered to sensitive patients. Eosinophilia was noted in peripheral blood counts. The findings readily subsided without apparent residual effects when treatment was discontinued. Recovery was delayed in one reported instance. The physician indicated in this case that either drug-induced jaundice or viral hepatitis may have been responsible for the findings.

In one clinical study involving ninety-three patients treated with the antibiotic, three cases of jaundice were observed and an additional eleven cases developed some changes in liver function tests. Three of the patients had abnormal liver function tests a second time on readministration of the drug.

Even though it is assumed that not all cases of jaundice have been reported, it seems clear that the number is small compared with the amount of drug that has been used. Reported cases have included persons in whom there had been administered other drugs known to be associated at times with hepatic side-effects and cases in which the presence of viral hepatitis or other disease may have been responsible for the findings. In some of the cases, associated gastro-intestinal symptoms simulated the colic of biliary tract disease. In other instances, clinical symptoms and results of liver function tests resembled findings in extrahepatic obstructive jaundice. It appears that the occurrence of jaundice after administration of Ilosone is infrequent, but further investigations are being made to estimate its incidence more accurately.

In those cases mentioned above in which jaundice appeared t be definitely related to use of the drug, laboratory findings wer characterized by increased direct-reacting bilirubin, elevate alkaline phosphatase levels, negative or weakly positive cephali flocculation and thymol turbidity tests, elevated serum glutami oxalacetic transaminase levels, peripheral eosinophilia, and nor mal cholecystograms.

Individual idiosyncrasy seems evident since jaundice has no been reported in other patients taking prolonged courses of th medication. Patients with chronic infection have been given 1 t to 2 Gm. of the drug daily for periods of two to six months, an patients with rheumatic fever have taken prophylactic doses o 0.5 Gm. daily for two years without difficulty. In one group o 144 patients who received the drug daily for two years, no jaun dice was noted. It was of interest that members of six of thes patients' families, who were not taking the drug, had episode of jaundice during the study period.

Transaminase and serum alkaline phosphatase levels wer determined in a group of fifty-four adults and children who too 250 mg. of Ilosone daily for an average of sixteen months a rheumatic fever prophylaxis. The results were compared wit those of a similar group of forty-four patients who received pen icillin. There were no cases of jaundice in either group. Elevatio of SGPT and serum alkaline phosphatase levels during the cours of treatment was observed in one patient treated with Iloson and in two patients treated with penicillin. Seven other patient in the group receiving Ilosone and four others in the penicilli group showed elevations in one of the tests at some time durin administration of the drugs.

Very satisfactory therapeutic results, without toxicity, wer reported in 102 pediatric patients who received short-term (ten day) courses of Ilosone in the treatment of streptococcus infec tions. Results of liver function tests in these patients wer comparable to those in a similar control group who had receive penicillin.

Gastro-intestinal disturbances not associated with hepatic ef fects are observed in a small proportion of individuals as a resul of a local stimulating effect of the medication on the alimentar tract; however, the normal intestinal gram-negative bacteria flora is not appreciably altered by erythromycin drugs.

Although allergic manifestations are uncommon with the us of erythromycin, there have been occasional reports of urticaria skin eruptions, and, on rare occasions, anaphylaxis.

Administration and Dosage: Ilosone is administered orally.

Ilosone Pulvules®, Ilosone Liquid 125, Ilosone, 125, for Ora Suspension, Ilosone Drops, Ilosone Chewable Tablets.

For infants and for children under twenty-five pounds of bod weight, the usual dosage is 5 mg. per pound every six hours; fo children twenty-five to fifty pounds, 125 mg. every six hours (Tablets Ilosone Chewable should be chewed or crushed an swallowed with water.)

For adults and for children over fifty pounds, the usual dosag of Ilosone is 250 mg. every six hours.

For severe infections, these dosages may be doubled.

When larger doses are indicated, parenteral erythromyci therapy should be considered.

In the treatment of syphilis, the recommended total dosage i 20 to 30 Gm. given in divided doses for a period of ten to fiftee days. Close follow-up of the patient is necessary since erythro mycin drugs have not had adequate evaluation in all stages o syphilis. Examinations of spinal fluid are recommended as par of the follow-up therapy.

For gonorrhea, 500 mg. four times a day for four days ar recommended. In the treatment of gonorrhea, patients with a suspected lesion of syphilis should have a dark-field examinatio before receiving antibiotics, and monthly serologic tests shoul be made for a period of three months.

How Supplied: Pulvules Ilosone, Capsules, N.F., 125 and 250 mg (equivalent to base), in bottles of 24 and 100.

Ilosone Liquid 125, Oral Suspension, U.S.P., 125 mg. (equivalen to base) per 5-cc. teaspoonful, in 60-cc. and pint-size packages

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Tablets Ilosone Chewable, N.F., 125 mg. (equivalent to base) in bottles of 50. [032767

References: 1. Griffith, R. S., and Black, H. R.: Am. J. M. Sc., *247*:69, 1964
2. Griffith, R. S., and Black, H. R.: Antibiotics & Chemother., *12*:398, 1962
3. Hirsch, H. A., Pryles, C. V., and Finland, M.: Am. J. M. Sc., *239*:198, 1960.

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Diaphragmatic Eventration with Liver Hernia

Cecil C. Vaughn, M.D.

The uncommon condition of eventration of the diaphragm is thoroughly reviewed, and an unusual case in a thirty-three-year-old patient is presented in detail. The surgical treatment is well described and illustrated.

Diaphragmatic eventration was first described by Petit in the eighteenth century.[1] Baclard[2] is credited with coining the term eventration which literally means out of (E) the belly (venter). It may be defined as an abnormal elevation of a phrenic leaf as a result of aplasia, paralysis or atrophy.[3]

Etiology:

The etiology may be obscure. Congenital eventration usually occurs on the left side and is infrequently associated with extra-lobar sequestration of the lung.[3] Ravitch and Handelsman[4] described defects in the right diaphragm with herniation of liver in infants. These were considered as a variant of diaphragmatic hernia; however, biopsy of the weak segment of the phrenic leaf showed muscle tissue in three or four cases, seemingly classifying them as localized eventration with liver hernia. These authors felt the etiology was possibly "localized affection of diaphragmatic innervation". Bulgrin and Holmes[5] described autopsy findings of eventration of the diaphragm with high renal ectopia. Acquired diaphragmatic eventration (partial or complete) is usually caused by phrenic nerve involvement, which may be secondary to irritation by tumor, suppuration, poliomyelitis, influenza, syphilis, alcohol or lead poisoning. Pericarditis, subphrenic abscess, aneurysms, echinococcus infection, lung abscess and cholectystitis have been reported as etiologic agents in eventration of the diaphragm.[2]

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333 West Thomas Road
Phoenix, Arizona 85013

After July 1, 1967, Department Thoracic and Cardiovascular Surgery, University of Utah, Medical Center, Salt Lake City, Utah.

Symptoms:

Localized eventration of the diaphragm with liver hernia presents as a right pericardiophrenic mass in the chest roentgenogram. The lesions are usually asymptomatic, being found on survey or routine chest X-rays. They may cause severe embarrassment in the infant.[4] Wolfson and Goldman[7] presented a case of strangulating diaphragmatic hernia of the liver with symptoms of nausea, vomiting and epigastric pain. Their case was successfully operated upon.

Diagnosis:

The differential diagnosis of a right pericardiophrenic mass must include posterior sulcus neurogenic tumors, pericardial cyst or diverticulum, hernia of the foramen of Morgagni, primary lung lesions, primary tumor or cyst of the diaphragm, localized eventration of the diaphragm with liver hernia. Chest X-rays in the erect posterior-anterior and lateral position will localize the lesion and rule out neurogenic lesions. Lateral views frequently show the pericardial cyst in a tear drop configuration as it extends between the right middle and lower lobe of the lung. Cardiac fluoroscopy aids in ruling out pericardial lesions. Herniae of the foramen of Morgagni usually occur on the right because of the heart on the left; they may contain only omentum. Barium enema may show tenting of the transverse colon or the inverted "V" sign in Morgagni herniae. At cardiac fluroscopy the hernia may appear larger on expiration as the intraabdominal pressure is increased. Tomograms are of inestimable value in localizing lesions in the pulmonary parenchyma. Primary neoplasms and cysts of the diaphragm can often be diagnosed by pneumothorax and pneumoperitoneum. Lilenthal[7] stressed the diagnostic difficulties inherent in right pericardiophrenic masses and urged the use of pneumothorax and pneumoperitoneum in the pre-operative evaluation of these patients. An operative diagnosis of localized diaphragmatic eventration with liver hernia was made in a patient who presented with an asympomatic right cardiophrenic mass.

Treatment:

Surgical treatment of localized diaphragmatic eventration requires appropriate reconstruction of the eventrated segment. It is hoped that this presentation will aid those called upon to diagnose similar lesions and make them more cognizant of the possibility of this uncommon benign condition.

L.B.M., thirty-three-year-old Pima Indian female, was found to have an asymptomatic right cardiophrenic mass on routine chest X-ray in March, 1963. At that time she was evaluated with complete chest X-rays including tomograms, barium enema and upper G.I. series at another hospital. A diagnosis was not forthcoming from these observations; an exploratory thoractomy was recommended but refused by the patient. She remanied asymptomatic. On May 5, 1964, she was admitted to the United States Public Health Service Indian Hospital, Phoenix, Arizona, for evaluation on the unchanged mass. She denied weight loss, dysphagia, hemoptysis, night sweats or cough. The past history and system review were non-contributory. Physical examination revealed a normotensive, slightly obese Indian female in no distress. Auscultation and percussion of the chest showed no evidence of rales, pleural or pericardial friction rub or evidence of pulmonary consolidation. There was no evidence of pulmonary osteoarthropathy. The rest of the physical examination was not remarkable. Chest X-rays in the posterior-anterior and lateral view (Figures 1 and 2) showed the right cardiophrenic mass causing slight elevation of the right ventricle. Cardiac fluoroscopy delineated the nonpulsating mass separate from the heart; the size was unchanged throughout the respiratory cycle. Barium enema and upper gastrointestinal series was normal. Other laboratory values included B.U.N. 15.7 mg.%, F.B.S. 78 mg.%, hemoglobin 12.7 gms.%, hematocrit 41%, W.B.C. 6,-150. The EKG, urinalysis and serologic test for syphilis were normal.

Course In The Hospital:

After the described studies were completed, thoracotomy was recommended. A right thoracotomy was performed through the sixth intercostal space without rib resection. The mass was found to measure three by two centimeters in the medial portion of the central diaphragm just under and in contact with the right ventricle (Figure 3). Filmy adhesions from the mass to the lung were dissected away. The consistency was firm; an area of attenuated, flaccid diaphragmatic tissue corresponding to the size of the mass could be picked up and separated from the firm portion of the mass. A phrenicotomy incision was made along the anterior border of the locally eventrated segment of diaphragm exposing the mass as a nodule of liver tissue extending into the defect (Figure 4). The liver appeared grossly normal except for a minimal band of constriction at the base of the nodule corresponding to the edges of the eventrated segment. The attenuated diaphragmatic membrane was imbricated over the liver nodule with mattress sutures of double O black silk. (Figure 5).

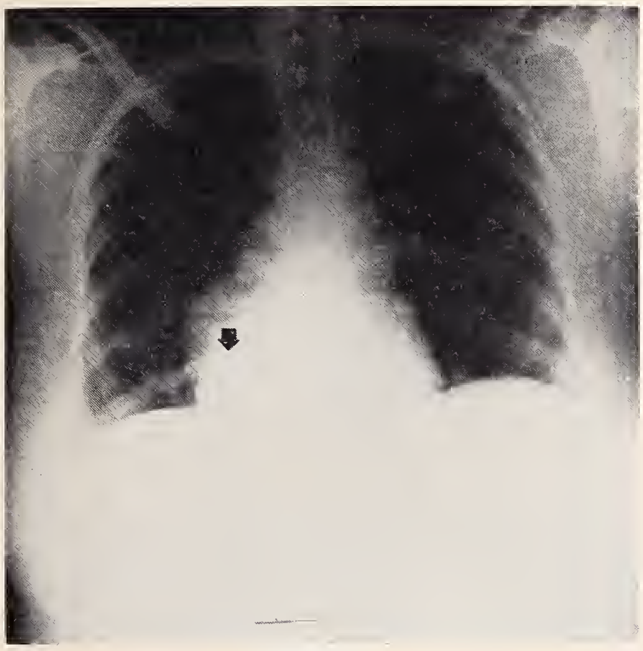

Figure 1.
Posterior-anterior chest X-ray showing smooth, well circumscribed spherical density in the right cardiophrenic angle.

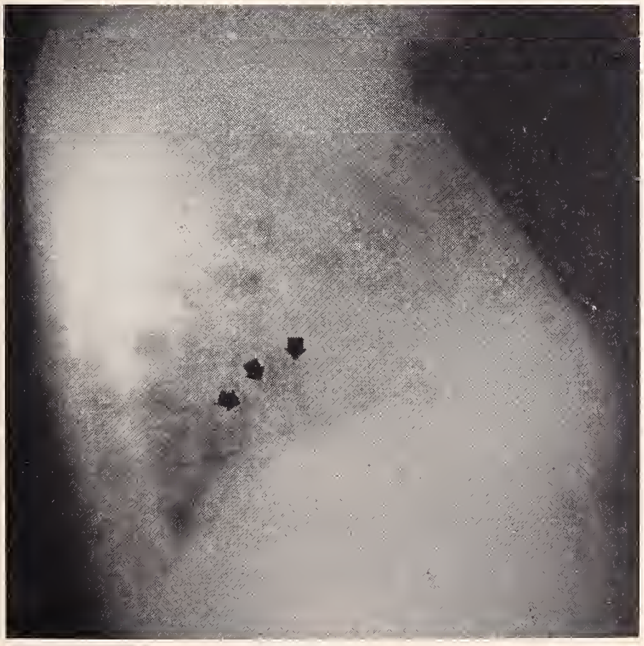

Figure 2.
Right lateral view showing density above mid-diaphragm.

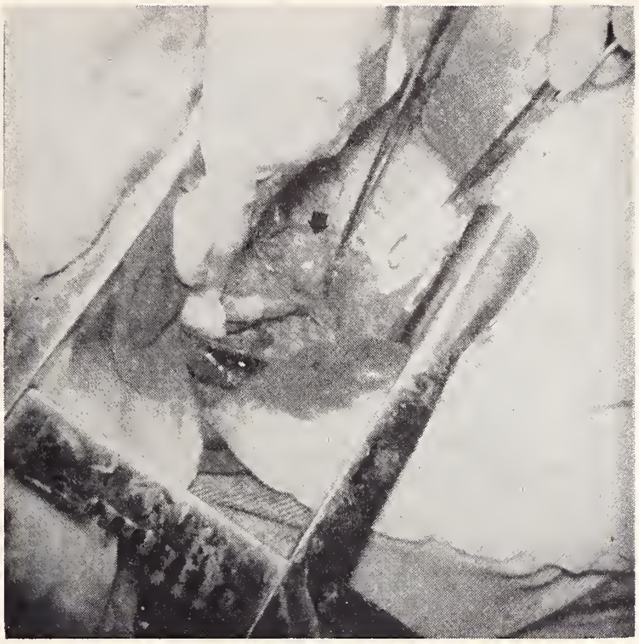

Figure 3.
Mass (arrow) as first exposed at operation. The right lower lobe of the lung has been reflected superiorly exposing adhesions between the mass and lung.

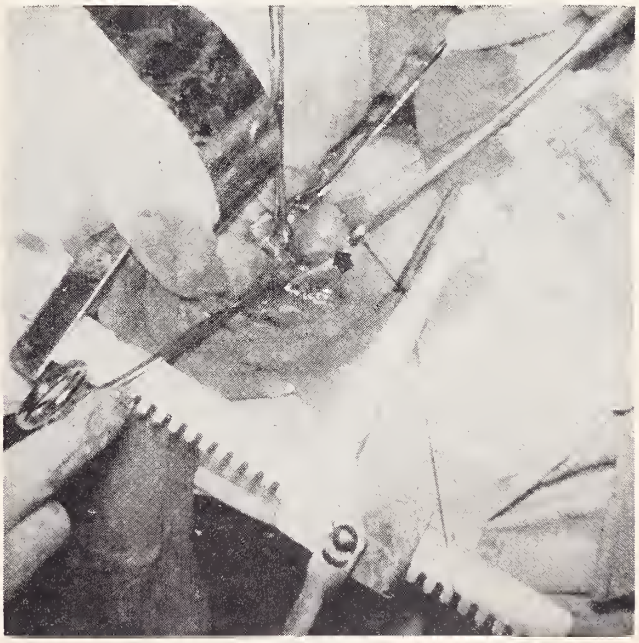

Figure 4.
Phrenicotomy incision along anterior border of eventrated segment showing the herniating nodule of grossly normal appearing liver. Note small area of constriction at the base of the nodule (arrow).

Neither the liver or the eventrated diaphragmatic segment was biopsied. The chest was closed in routine fashion using two chest catheters connected to underwater seal. The chest tubes were removed after forty-eight hours. The patient was discharged on her tenth postoperative day after an uneventful convalescence.

Comments:

Localized eventration of the right diaphragm with liver hernia is a distinct possibility in the differential diagnosis of right cardiophrenic masses. Appropriate use of chest X-ray, barium examination of the upper and lower gastrointestinal tract, cardiac fluoroscopy, tomography and diagnostic pneumoperitoneum should reveal the nature of the lesion. With a diagnosis of asymptomatic localized diaphragmatic eventration with liver hernia, thoracotomy would not seem justified.

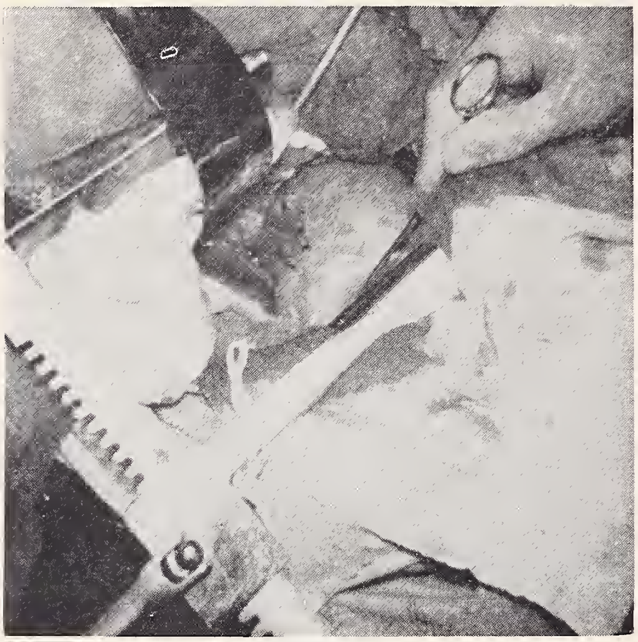

Figure 5.
Mattress sutures of double O black silk have been placed and tied imbricating the eventrated segment of diaphragm as in vest over pants umbilical herniorrhaphy.

Periodic follow up of these patients is required because of the possibility of enlargement of the hernia with liver strangulation or the development of extrinsic pressure on the heart, lungs, and great vessels. At operation, simple imbrication of the eventrated diaphragmatic segment with non-absorable mattress sutures is all that is required; liver biopsy is unnecessary unless gross changes are obvious. Neoplasia of the herniating liver has not been reported.

Summary:

1. The etiology of eventration of the diaphragm is reviewed.
2. Localized eventration of the right diaphragm with liver hernia is usually asymptomatic. Respiratory distress in infants and liver strangulation in an adult have been discussed.
3. The differential diagnosis of right cardiophrenic masses is discussed.
4. A case presentation is given in which an operative diagnosis of localized diaphragmatic eventration with liver hernia was made.
5. Indication for surgery when the diagnosis is known should include liver strangulation, rapid enlargement of the defect, or extrinsic pressure on the heart, lungs, or great vessels.
6. Operative treatment usually requires only imbrication of the eventrated segment by non-absorbable mattress sutures. Liver biopsy is unnecessary unless gross changes are obvious. Neoplasia of the herniating liver has not been reported.

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Hypopituitary Crisis in Sheehan's Syndrome—Review of the Problem and Its Treatment

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This case report again demonstrates the dangers of treating hypopituitarism with only thyroid replacement. The other target organs, especially the adrenal glands, need replacement also. Without it, disaster may occur.

Although the major characteristics of hypopituitarism due to post partum necrosis of the pituitary have been recognized as a clinical entity since as early as 1872, the syndrome has remained a frequent problem in diagnosis.[1] In the event of its major complications, especially in hypopituitary crisis, it has remained a problem in treatment, despite the availability of replacement hormones. Sheehan clarified the syndrome of hypopituitarism and emphasized the role of post partum pituitary necrosis as a frequent cause of the condition.[2] He described the associated clinical findings of failure of lactation, amenorrhea, loss of axillary and pubic hair, genital and breast atrophy, superinvolution of the uterus, symptoms of hypothyroidism and various degrees of adrenocortical insufficiency. He observed that in 96 cases which showed pituitary lesions at post mortem examination 62 patients died in coma.

Although more attention has been given to the treatment of myxedema coma, both primary and secondary to hypopituitarism, a recent review of the literature revealed that of 63 patients in myxedema coma who were treated with various types of thyroid hormone, 67% died.[3] The additional problem of adrenal insufficiency which often accompanies this condition complicates the treatment considerably. In the Indian population where delivery of the newborn may occur in the home without the attendance of a physician there is probably an increased incidence of Sheehan's syndrome and its complications. This case is presented to illustrate the

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problem of diagnosis in Sheehan's syndrome, and some of the methods now available for the treatment of hypopituitary crisis.

Case History

A 65-year-old Navajo female (E.B.) was admitted to this hospital in a comatose state on January 4, 1966. Friends revealed that the patient had been essentially "well" until the previous evening when she complained of a vague feeling of "sickness". No history of antecedent infection, exposure, nausea, or vomiting was obtained. In her late twenties, during the delivery of an infant in the home, the patient had considerable hemorrhage resulting in the death of the newborn. Subsequently she developed complete amenorrhea. In June of 1963 the diagnosis of probable panhypopituitarism was established and the patient maintained on thyroid extract and hydrocortisone. Her last visit as an outpatient occurred fourteen months prior to this admission, and she had been without any medication for over thirteen and one-half months of this period. The patient was known to have had two generalized convulsions on the day of admission. The second convulsion was observed on the ward shortly prior to treatment.

Physical examination revealed a relatively well-nourished comatose patient with a rectal temperature of 94.4F and an unobtainable blood pressure. The skin was slightly edematous, pale and waxy. No axillary or pubic hair were noted. The eyebrows were sparse and the eyelids extremely edematous. The neck was supple and the thyroid unremarkable. The heart was not enlarged and no murmurs were audible. The lungs were clear. The abdomen was slightly distended. On an earlier admission, the vagina and uterus were found to be atrophic. Deep tendon reflexes were present with a markedly prolonged relaxation phase.

Laboratory examination on blood drawn prior to treatment revealed a serum sodium of 122 mEq/L, potassium of 3.6 mEq/L, chloride of 103 mEq/L, calcium of 4.7 mEq/L, and CO^2 combining power of 14 mEq/L (normal is 18 to 21 mEq/L at this altitude of 6,600 feet). Later a plasma cortisol was 2 ug/100 (normal 5 to 20 ug/100 ml). Protein bound iodine was 2.2 ug/100 ml. The blood sugar level was 18 mgm/100 ml (Somogyi-Nelson method). Hemoglobin was 10 g. X-rays of the chest were normal. An electrocardiogram revealed low voltage generally, and low T waves over the lateral precordium.

Administration of intravenous glucose, 100 ug of triiodothyronine and 200 mg of hydrocortisone was begun with the patient's blood pressure becoming normal in about one hour. She also became responsive to painful stimuli at that time. Six hours after admission she became responsive to verbal stimuli. Rectal temperature 12 hours after admission was 98F and soon after became normal. Fourteen hours later, 100 ug of triiodothyronine and 100 mg of hydrocortisone were again given intravenously. The following day, the patient was able to take liquids by mouth and was begun on 50 ug of triiodothyronine by mouth daily. After recovery from coma, the patient exhibited bizarre behavior characterized by inappropriate laughter and lack of co-operation with ward personnel. After several days, her behavioral status improved generally. Deep tendon reflexes continued to show a markedly prolonged relaxation phase on photomotogram for three weeks after admission, although an electrocardiogram was normal at this time. The patient was begun on oral thyroid extract and glucocorticoids. She was discharged having refused to consider nursing home care. An examination in the outpatient clinic two weeks after discharge revealed normal reflexes and generalized improvement.

Diagnostic Studies

The diagnosis of panhypopituitarism was suggested when the patient was previously hospitalized in January of 1963. At that time she was being treated for what appeared to be primary myxedema. Protein bound iodine determinations were between 1 and 2 ug/100 ml., and a markedly depressed I^{131} uptake was observed at that time. Thirty-six days after initiation of thyroid extract, then at a dose of 30 mg three times daily, she developed fever, abdominal pain, weakness, nausea and diarrhea. Parenteral fluids were given but she soon became comatose. Laboratory examination revealed serum sodium of 105 mEq/L, potassium of 4.6 mEq/L, chloride of 86 mEq/L, and an eosinophilia of 33% on differential blood count. Urinary 17 ketogenic steroids were 5.1 mg in 24 hours. After she was given 50 units of ACTH and hydrocortisone, her condition improved. ACTH and corticoid were discontinued, and one month later a 24 hour urine collection revealed 17 ketogenic steroids of 6.3 mg, and 17 ketosteroids of 1.7 mg. After two days stimulation with an intravenous infusion of ACTH, a 24 hour urine collection on the second day revealed 17 ketogenic steroids of 16.5 mg. Skull x-rays were normal. A metyrapone test of adrenal function was performed. A 24 hour urine collection the day following administration of this drug demonstrated a 17 ketogenic steroid that was below the control level. A water loading test was performed, and the patient exhibited a subnormal water load excretion. The patient refused transfer to another hospital with facilities for TSH stimulation with subsequent radioactive iodine uptake studies.

After two months on thyroid replacement therapy, a determination of 24 hour urinary gonadotropin (FSH) was over 6 and under 16 mouse uterine units (normal in postmenopausal women over 50 units).

The patient was re-admitted soon after discharge, having been on only thyroid replacement therapy. She complained of abdominal pain, and soon became comatose. Again she improved with parenteral steroid therapy. When examined four months after discontinuing medication, she was hypotensive, but not in coma or electrolyte imbalance. Serum cholesterol was 302 mg/100 ml. Protein bound iodine was 1.6 ug/100 ml and a 24 hour urine collection contained 0.8 mg of 17 ketogenic steroid. During administration of intravenous ACTH on two consecutive days, a 24 hour urine collection the first day showed 17 ketogenic steroid of 4.5 mg, and during the second day of ACTH administration it rose to 11 mg. Skull x-rays were again normal. She was placed on thyroid extract and hydrocortisone. After eight days treatment with thyroid replacement, a 24 hour urinary gonadotropin (FSH) was under six mouse uterine units. She was later discharged improved, on appropriate therapy.

Discussion

Two lines of evidence helped to establish the diagnosis of hypopituitarism in this patient. First, she gave the history of total amenorrhea following a delivery in the home associated with heavy blood loss and death of the newborn. Complete amenorrhea usually occurs in Sheehan's syndrome, and is of considerable significance in patients suspected of having hypopituitarism.[4] Amenorrhea occasionally may occur some time after delivery, and in one reported case, menopause occurred at a normal age.[5]

Thyroid deficiency is usually seen in Sheehan's syndrome although this too may not always be the case.[6] Our patient exhibited a low protein-bound iodine and other signs of hypothyroidism. Although her serum cholesterol was slightly elevated, it has been shown that in myxedema coma it may be normal or elevated, and in Sheehan's syndrome it is more often elevated than normal. It is felt that this should not be considered a distinguishing test to separate hypopituitary myxedema, and primary myxedema.[5] A TSH stimulation test, although not done in this patient, is very helpful in distinguishing myxedema of pituitary origin from primary myxedema.[7] In patients having Addison's disease with associated hypothyroidism (Schmidt syndrome) one would not necessarily expect a response to TSH, since almost complete destruction of the thyroid has been reported in this condition.[8] Skull films are essential to rule out tumor as a cause of hypopituitarism.

Hypoadrenalism secondary to hypopituitarism was demonstrated in this patient who exhibited low 17 ketogenic steroid production as shown by low plasma and urinary levels. She responded to ACTH stimulation with an increased urinary excretion of 17 ketogenic steroid and showed an absence of response to metyrapone. This suggested hypopituitarism, and although evidence of hypoadrenalism occurs in myxedema, such patients appear to respond in a normal fashion to metyrapone administration.[9] It has been suggested that myxedema patients who do not respond normally to metyrapone be investigated for hypopituitarism. It has also been suggested that the low urinary 17 ketogenic steroids in patients with myxedema is due to a combination of a decreased direct effect of thyroid hormone on the adrenal cortex itself, and an indirect effect by modification of secretion or degradation of ACTH.[10] In the patient presented, plasma cortisol was well below normal which is typical in patients with hypopituitarism.[7]

Gonadotropins are a useful determination in patients suspected of hypopituitarism, especially in postmenopausal women, since urinary gonadotropic activity is normally increased postmenopausally. A low urinary output of gonadotropins suggests hypopituitarism in these individuals. The absence or decrease in excretion of gonadotropin is also seen in severe malnutrition, or severe hypothyroidism, therefore this test alone is not always helpful in distinguishing hypopituitarism.[4] However gonadotropins (FSH) should theoretically increase in those individuals with severe hypothyroidism and a low FSH who have been under treatment and are euthyroid. In the patient discussed, gonadotropin (FSH) determinations remained low despite treatment with thyroid extract for more than one month.

Treatment

Despite the availability of thyroid replacement therapy, the mortality rate in patients with myxedema coma of pituitary or thyroid origin has remained high. In 1949 Sheehan reviewed 96 cases which at post-mortem examination revealed various degrees of pituitary necrosis, 65% died in coma.[2]

In the case presented, hypoglycemia was a striking feature and may have been partly responsible for the convulsion observed, although convulsions are seen in a significant number of individuals with myxedema without hypoglycemia especially when the myxedema has not been treated.[11] Hypoglycemia apparently contributes significantly to the clinical picture in the terminal stages of hypopituitarism. In 9 out of 14 patients in hypopituitary coma in whom the blood sugar was done, it was recorded as between 10 and 30 mgm/100 ml. When intravenous glucose was given to 19 patients who were in hypopituitary coma, 15 regained consciousness although they became comatose again and died a day or so later.[2] In the case presented, the initial clinical improvement was possibly due to prompt administration of glucose, although adrenal steroids and triiodothyronine were also given initially.

It has been recommended that adrenocortical steroids be given as initial treatment for all patients with primary or secondary myxedema coma, especially since the differentiation of primary and secondary myxedema can seldom be made at the bedside.[12, 13] The dangers of corticoid administration have also been pointed out, especially in those patients with cardiac disease or evidence of congestive heart failure.[14] However in some cases of myxedema coma with apparent adrenal insufficiency, and certainly in known cases of hypopituitary myxedema there would be little argument against using adrenal corticosteroids. In pituitary insufficiency with myxedema, the administration of thyroid alone is hazardous since acceleration of the metabolism may accentuate adrenal insufficiency.[15] In hypopituitarism mineral corticoids are not necessarily indicated in long term therapy if the patient can maintain an adequate salt intake.[4]

Considerable controversy exists over the choice of thyroid replacement therapy in myxedema coma of primary or secondary nature. In a recent article, there were seven cases of survival in myxedema coma in patients who had received large doses (300 to 500 micrograms) of L-thyroxine intravenously.[16] Previous experiences with L-thyroxine, in these cases administered in smaller dosages, often orally, were not successful inasmuch as there was recorded an overall mortality of 80% in its use in 20 patients.[3] It has been argued that L-triiodothyronine would appear to have greater efficacy due to its more rapid onset of action.[4] There was reported a detectable effect of the parenterally administered drug within six hours. By mouth, euthyroid state was achieved in one-fourth the time required by desiccated thyroid or sodium L-thyroxine.[17] Triiodothyronine has been administered intravenously, intramuscularly, and by gastric tube. Various cardiac arrhythmias, and myocardial infarction have been ascribed to its uses.[12] In at least one instance of arrhythmia, that of ventricular tachycardia, metaraminol had been used simultaneously.[18] It has been suggested that the early cardiovascular effects of thyroid hormone may be due to augmentation of the physiologic effects of sympathomimetic amines. Certainly vasopressors should be used cautiously in patients receiving triiodothyronine. Despite its objections, triiodothyronine treatment in myxedema coma would appear to carry a lower mortality rate than treatment with other agents.[3] Although it would appear that triiodothyronine is rapidly absorbed from the gut, as demonstrated in the rapid improvement of certain patients to whom it was administered in this fashion,[19] there would be the same well known dangers involved in intubation of the comatose patient, in myxedema crisis.

Circumstances precipitating the coma of myxedema or hypopituitarism should be sought and treated appropriately. The patient presented demonstrated no evidence of infection, diarrhea, exposure, or other precipitating factors. Some patients in coma may exhibit a low grade fever, rather than hypothermia if an infectious process is present. The use of external heat to raise the body temperature is generally felt to be of little therapeutic value and may precipitate circulatory collapse. Usually the body temperature returns to normal with triiodothyronine in 24 to 48 hours.

There is also severe depression of the respiratory center in myxedema coma, as well as hypoventilation. Sheehan commented upon the shallow respirations in the patients he reported with coma associated with hypopituitarism. Carbon dioxide narcosis has been incriminated as a causal factor as have obesity, pulmonary stasis, and poor pulmonary ventilation due to myxedematous involvement of the thoracic wall and muscles of respiration.[20] Assisted ventilation may be beneficial in the coma of thyroid and pituitary origin.

Fluids, although imperative in treating the patient with myxedema or hypopituitary coma, should be administered with extreme caution. The inability to excrete a water load has been demonstrated in primary and invariably in secondary myxedema and in adrenal insufficiency. Evidence has been presented elsewhere that "inappropriate" ADH secretion may play a role in this impaired water excretion, as well as the hyponatremia that is seen in these patients.[21] In secondary myxedema the defect in water excretion is usually corrected by the administration of adrenal glucocorticoids.

Summary

A patient is reported with Sheehan's syndrome and severe myxedema who had developed adrenal crisis while under treatment for myxedema. On her present admission she presented the general appearance of a person with myxedema coma. When her laboratory data became available, it was apparent that severe adrenal insufficiency was also an important consideration. On the basis of the problems outlined in the treatment of this patient, it is felt that the physician should seek to rule out hypopituitarism in a myxedema patient, with and without coma, for treatment with only thyroid replacement where secondary adrenal insufficiency co-exists may lead to fatal Addisonian crisis.

Hypopituitary crisis and myxedema coma of thyroid and pituitary origin carry a high mortality and demand prompt attention. Treatment in the case presented consisted initially of triiodothyronine and hydrocortisone intravenously, as well as glucose. No complications of the treatment were observed.

In the Caucasian population, the cardiac status appears to be much more serious a consideration than it was in this case, as arteriosclerotic disease is much more common in the general population, than among the Navajos.[22]

Although Sheehan's syndrome and hypopituitarism of such a degree are relatively rare, it must be suspected as a cause of coma in a population unsophisticated in matters pertaining to medicine, and where delivery of an infant may occur in the home without a physician in attendance.

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The Role of Antibiotics and Steroids in Secondary Fungal Infections - A Review

Arthur F . Di Salvo, M.D.

The potent drugs available to the physician today must be administered carefully. Here is a good review article about the possible deleterious effects of the common types of drugs used today. They are antibiotics and steroids.

During the past fifteen years there has been widespread recognition of a new problem concerning fungal infections superimposed on other disease processes. In many instances, patients have been predisposed to these infections by treatment with antibiotic or chemotherapy. Patients being treated with life-saving drugs have often succumbed to secondary infections which were the consequence of therapy. The change in the clinical condition of the patient has been correlated with the onset of the superinfection[68] and some patients who have succumbed had been on antibiotic therapy for less than two weeks when infection became evident.[68, 75]

The nature of the organisms causing these secondary infections are such that widespread use of the term "opportunistic fungi" has come into use to describe these agents. In June 1962, an International Symposium on Opportunistic Fungus Infections was held at Duke University to discuss this new and real threat to medical therapy. In the introduction to this meeting, Dr. R. D. Baker set the definition of this term.[3] "The committee of the symposium suggested that the term opportunistic fungi designate ubiquitous saprophytes and occasional pathogens that invade the tissue of man or animals with 1) predisposing diseases such as leukemia, diabetes, lymphoma, cancer and aplastic anemias; or 2) predisposing conditions such as agammaglobulinemia, neutropenia, splenectomy, and roentgen

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therapy and the use of steroids and antileukemia and antibiotic drugs."

Keye and Magee[43] reviewed the records of almost 16,000 autopsies occurring from 1919-1955. They divided these into four time periods:

A - The pre-sulfonamide period	1919-1936
B - Sulfonamide period	1937-1941
C - Penicillin period	1942-1947
D - Multiple antibiotic period	1948-1955

They concluded that the incidence of primary pulmonary fungus infections has not increased but the incidence of secondary fungus infections has been growing. This has been well substantiated.[41, 57, 78] Hutter and Collins[39] reviewed the cases of 202 patients in a cancer hospital with mycotic infections and found that in 91% of the patients the mycosis was secondary to their basic disease. Lymphomas and leukemias were most frequently associated with mycosis. Similar reports of a high incidence of mycoses in patients with neoplastic diseases were made by others.[4, 55, 64, 15, 32] Old tuberculosis cavities are often secondarily infected with aspergillus.[13, 22] There have also been reports of opportunistic fungi occurring in dermatology,[30] ophthalmology,[76] urology,[58] cardiac surgery,[40] and in psychiatric patients treated with some tranquilizers.[42]

The leading cause of secondary infections has been *Candida albicans.*[10, 11, 12, 18, 28, 29, 33, 34, 45, 47, 60, 61, 62, 75, 80, 82] Aspergillus,[47, 57, 65, 68, 75, 82] Mucor[2, 4, 57, 68, 75, 83] and others[12, 19, 21, 31, 79] have also been incriminated. These, usually saprophytic organisms, are ready to invade a host whenever the resistence is lowered. A change in the normal bacterial organisms has been shown to be exerted by the antibiotics,[25, 44, 48, 51, 61, 77] sulfonamides[41, 45] and steroids[75] or a mixture of these.[19, 45]

Laboratory Studies

A. *In Vitro*

Numerous investigators have made laboratory studies on the effects of steroids and antibiotics upon the fungi. The organism which has been studied most has been *C. albicans* due to the high incidence of this organism as a secondary invader. The results of the studies are often contradictory.

In vitro studies by Woods, *et al.*[81] showed no increase or suppression of growth of *C. albicans* by various dilutions of aureomycin, penicillin or chloramphenicol. This was confirmed by Robinson[61] who investigated five popular antibiotics and showed that the growth of *C. albicans* was not affected by their presence. Seligmann's research into the virulence enhancing activities of aureomycin demonstrated that this antibiotic failed to promote the growth of *C. albicans* in liquid or solid media.[66]

Pappenfort and Schnall also investigated the effects of aureomycin.[56] Their report shows that when they used the drug preparation intended for parenteral use, the results were the same as those previously mentioned. However, when they used aureomycin that was prepared for oral use, stimulation of the growth of *C. albicans* was evident. Contrary findings were also reported by Huppert and Cazin who demonstrated that aureomycin, bacitracin and neomycin stimulate the growth of *C. albicans in vitro.*[37]

The studies of Campbell and Heseltine more closely parallel an *in vivo* situation.[14] They prepared cultures of mouse feces and human throat swabs. One percent tetracycline HC1 was added to the cultures, which were then incubated and filter sterilized. The resulting infusion was inoculated with *C. albicans.* Appropriate control cultures were sterilized before addition of tetracycline and incubation. They found that the growth of *C. albicans* was enhanced in the tubes where the natural flora was pre-treated with tetracycline. It appears that the antibiotic acts on the bacterial flora to release a substance which stimulated growth of *C. albicans.*

B. *In Vivo*

In vivo experiments on the animal level have shown that the intraperitoneal administration of either aureomycin or *C. albicans,* in mice, in a standard dose was not lethal. A combination of the organism and the antibiotic, inoculated simultaneously, was highly virulent for mice.[66]

Terramycin and cortisone have the same effect of enhancing the virulence of *C. albicans* in mice when injected intraperitoneally. This effect was not noticed when either the drug or challenge dose of the organism were given orally or subcutaneously. If aureomycin or terramycin was given intravenously to mice simultaneously with the organism, the candida infection was suppressed.[67]

Huppert, *et al,* claim that aureomycin increases the incidence of *C. albicans* in the intestine of mice[38] and that it stimulates the growth of the organism.[36] It has also been demonstrated that penicillin inoculation of chick embryos infected with candida will increase the mortality rate.[26]

The work of Kligman indicates that experimental histoplasmosis was not enhanced by the broad spectrum antibiotics. These same agents were not stimulatory for blastomycosis, coccidiodomycosis or sporotrichosis in animals.[44]

The influence of cortisone on experimental fungus infections in mice has been studied by Louria *et al.*[49] They presented evidence of an enhancement of the virulence of *Candida albicans,* by cortisone. Histoplasmosis and Cryptococcosis was enhanced to a much lesser degree.

Sidransky and Verney exposed mice to spores of *Aspergillus flavus* and then inoculated them with various doses of cortisone.[69] Mice receiving 1.25 mg. of cortisone had a mortality of 20-40 percent; those receiving 2.5 mg. cortisone had a mortality rate of 50-60 percent and those receiving 5 mg. cortisone had a mortality rate of 80-84 percent. In contrast, mice exposed to spores but not receiving cortisone had an 11-14 percent mortality rate.

Attempts have been made to simulate disease states which predispose to invasion by opportunistic fungi. A popular laboratory tool has been to induce alloxan diabetes in experimental animals. One group, working with rabbits prepared in this manner, challenged these animals with the fungus Rhizopus.[24] After a period of incubation the alloxan diabetic rabbits and a similar group of controls were sacrificed, autopsied and tissue sections studied. It was their opinion that hyperglycemia did not increase the susceptibility of the rabbits to this fungus.

Another group, from the same laboratory, working with mice infected with Rhizopus concluded that hyperglycemia did not alter the host response to mycotic invasion.[63] Other investigators, using alloxan diabetic mice, found these animals were highly susceptible to spores of *Aspergillus flavus* as opposed to control mice.[69] The dead mice had developed a fatal pulmonary aspergillosis.

Chick studied the enhancement of aspergillosis in leukemia.[17] He inoculated twenty-five two-day-old chickens intravenously with myeloblastosis virus. A similar group of chicks were used as controls. Blood smears were prepared daily until leukemic cells were seen in the peripheral blood. Then both groups were inoculated intraperitoneally with *Aspergillus fumigatus.* When a leukemic chick died, its corresponding control was sacrificed and complete autopsies were performed. Microscopic sections of the organs were studied. Myeloblastosis increased the susceptibility of chicks to aspergillosis. There were extensive lesions in the leukemic animals with deeper invasion of the parenchyma while the controls had scattered small lesions on the serosal surface of intra-abdominal organs.

Clinical Studies

The investigation of the incidence of fungal infections during chemothreapy has not been limited to laboratory research.

Candida albicans, the organism usually incriminated, has been regarded as part of the normal flora of man. The incidence of the yeast in normal individuals was adequately studied by Robinson.[61] In different series of random patients this organism was sought. The stool, vagina and oropharnyx were cultured. The results of 685 bacterial examinations showed that *C. albicans* occurred in 14-16% of the specimens. This percentage was constant in groups who had received antibiotics as well as those not so treated.

A study was performed on patients with bronchopulmonary disease whose sputum was negative for *C. albicans.*[16] Tetracycline was then administered to these patients, each receiving 250 mg. four times per day for five days (total of 5 grams). *Candida albicans* was then isolated from the sputum of 33% of these patients.

A report by Torak[75] described thirteen cases of superinfection due to Candida, Aspergillus or Mucor. He noticed that either superficial fungus infections or deep fungus infections occurred depending on the previous therapy. The five cases of superficial mycoses had all received antibiotics, one patient being treated with steroids in addition. The deep mycoses occurred in eight individuals who had been on steroid and antibiotic therapy. It would be interesting if this phenomena has been noticed by other investigators.

Patients with brucellosis were treated with aureomycin and chloramphenicol. *Candida albicans* infections appeared to be stimulated by this treatment. The lesions appeared after initiation of these specific drugs.[34]

A similar occurrence was reported by Wolff.[80] A patient on aureomycin therapy developed a monilial pneumonia. Recovery followed after aureomycin administration was stopped.

A review of pediatric literature in 1963 disclosed twenty-nine cases of pulmonary aspergillosis in children.[9] Seventeen of these children were leukemic. These authors concluded that aspergillosis is more frequent in the pediatric age group than has previously been appreciated and that leukemic children, on chemotherapy, are highly susceptible to secondary invasion.

This evidence implies that these organisms may represent the normal flora and that some change must occur in the host or in the fungus to cause the pathological processes.

Mechanisms of Action

A. *Antibiotics*

The exact mechanisms of this biological phenomenon remain unknown. At the present time the evidence indicates that during therapy the antibiotics suppress the normal flora as well as the pathogenic organisms. Other causes of antibiotic induced mycoses suggested are: Direct stimulation of the invading organisms and depression of antibody formation. Similar mechanisms have been proposed for the effect of steroids.

It has been ascertained that during the course of antibiotic treatment the normal flora is depressed. A new resistant flora may be either bacteria or fungi.[25, 44, 52] In a specific study of the effect of penicillin on bacterial flora of the mouth it was shown that this change occurs in two phases. First, the penicillin sensitive organisms are reduced. This was followed by an invasion of gram negative bacilli.[48] This situation is advantageous for the development of *Candida albicans* infection.

Similarly, short courses of oral administration of aureomycin have been shown to depress the normal microbial inhabitants of the nasopharynx. The organisms which were resistant to this drug, gram negative bacilli and certain strains of staphlococci, were predominant after therapy.[51] These alterations of the nasopharyngeal flora have also been shown to occur with sulfonamide administration.[41]

1. *Depression of Normal Flora.* More commonly, it is the fungi that take advantage of these conditions. Three theories have been proposed to explain why the normal inhabitants do not regain their place of pre-eminence. The simple matter of competition has been put forth by Woods *et al.*[81] During the period of decreased normal flora the fungi profit by the excess nutrients present. This allows them to become well established and limits the amount of nutrients available for the bacteria to re-establish their typical role.

It has been suggested by Huppert, *et al.*[36] that during the time of good health the normal flora of the host exert a specific antibiosis effect on the *Candida albicans* that may be naturally present. The depression of these normal organisms permits an overgrowth of the fungus.

Another effect of disturbing the intestinal organisms is a reflection of the vitamin B status. This group of vitamins is synthesized by bacteria in the normal intestinal tract. An alteration in the typical flora will produce a corresponding alteration in the endogenous vitamin B which is available to the host. This deficiency was alleged to make the host more susceptible to fungus infections.[34] At first thought this appears to be a logical conclusion if enough evidence could be produced.

Beckman states that the role of vitamin B deficiency, as a cause of moniliasis, is not substantiated.[5] When glossitis and stomatitis, symptoms of vitamin B deficiency, are present, they usually appear in two to five days after chemotherapy is started. Experiments in man show that it takes longer than this to establish the deficient state when vitamin B intake is restricted. It has also been demonstrated that the administration of the vitamin has not produced rapid regression of the symptoms nor has prophylactic use of vitamin B prevented the symptoms.

2. *Direct Stimulation.* Those who advocate direct stimulation of the secondary invaders by the antibiotics have based their conclusions on *in vitro* and animal experiments.[14, 36, 56, 66, 67] This hypothesis has not been demonstrated in man. Huppert and Cazin suggest that the superimposed fungus infections during antibiotic therapy are a result of biological mechanisms other than direct stimulation.[37]

3. *Depression of Antibody.* Antibody depression is not as obviously attributed to antibiotics as it is to steroid administration. Allen and Cooper, working with mice, claim that large

doses of chlortetracycline did not show any significant decrease in antibody production.[1] Slanetz fed antibiotics to animals for a prolonged period of time. He indicates that there was a slight decrease in antibody production.[70] Stevens used aureomycin, dihydrostreptomycin, terramycin and penicillin in rabbits. This work shows that these antibiotics markedly depressed the immune response. [72] A uniform study of this action using the same methods, antibiotics and experimental animals would be a worthy study.

B. Steroids

Steroid treatment, as well as antibiotic therapy, is believed to be responsible for secondary fungal infections [2 19, 47, 50, 67, 68] Laboratory and clinical evidence has been described which shows that cortisone has an enhancing effect on pathogenic fungi, usually through some mechanism which reduced the host resistance. The ability to produce circulating antibody may be reduced or the quality or quantity of polymorphonuclear leukocytes may be decreased. The impaired leukocytes do not destroy the ingested organisms. It has also been suggested that the precursors or products of steroid metabolism may enhance secondary infections. Frankel has demonstrated *in vitro* that this was not the case with *Histoplasma capsulatum*.[27] Benedek and Montgomery claim that therepeutic doses of ACTH and cortisone did not increase the infection rate in an analysis of 900 patient-months.[8]

1. *Depression of Antibody.* Proponents of steroid implication in this problem offer three mechanisms of action. The depression of antibody formation is the most important and, therefore, the most controversial. Some evidence has been produced which indicated that antibody formation is suppressed by cortisone.[35, 54, 71] This work was done *in vitro* or in animals. Stolzer, *et al.* came to the same conclusion in studies of man.[73] Others claim that ACTH or cortisone does not alter the antibody response in man.[46, 53]

2. *Depression of Lymphoid Mass.* A second mechanism is the depression of lymphoid mass. Steroids depress the plasma cells which are a site of antibody production. There is also an involution of lymphoid tissue including the lymph nodes, spleen and thymus. Transient lymphocytopenia has also been demonstrated.[6]

3. *Diminished Phagocytosis Mechanism.* A third mechanism is the effect of cortisone on phagocytosis. The blood from patients under treatment with cortisone or ACTH showed a decrease in the phagocytic action of polymorphonuclear leukocytes.[20]

Present Status

Treatment of opportunistic infections is the present problem. Nystatin, which is poorly absorbed from the gastrointestinal tract, has been used successfully against *Candida albicans* on the mucous membranes of the mouth, in the esophagus and gastrointestinal tract.[18] It has also been effective against cutaneous forms of candidiasis. Harrell and Thompson[33] advocate the prophylactic use of Nystatin; however, the parenteral form has been withdrawn from the market because of its toxicity.

Amphotericin B is also effective against *Candida albicans* and is the drug of choice in aspergillosis and mucormycosis.[10, 74] The one drawback is that administration of steroids interferes with the antifungal action of Amphotericin B.[7]

Surgery is often the preferred treatment in aspergillosis and phycomycosis.[23, 59]

Conclusions

It is evident that secondary fungus infections are appearing with greater frequency. Also apparent is the fact that these super-infections manifest themselves during chemotherapy for some basic disease. Administration of antifungal agents concomitent with therapy has been suggested as prophylaxis. This would not seem to be the answer for two reasons. First, there are few antifungal agents that are effective against deep mycoses. Second, the promiscuous use of these drugs will lead to the establishment of resistant strains of fungi.

Control of the predisposing disease state is of primary importance as is periodic review of the therapy in use.[59] This is especially true if secondary infection occurred while broad spectrum antibiotics or steroids were being administered. Treatment with an antibiotic to which the organism is sensitive, and adequate dosage of the drug is essential. General supportive measures to the patient are also advocated.

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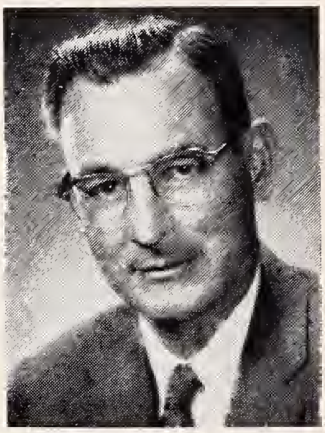
To Be A Judge Of Character



William B. McGrath, M.D.

Psychiatrists speak of sociopathic and other personality disorders, of character neuroses and emotional immaturities. These terms — and they are nearly synonymous — all seem to be describing some "thing," some entity called personality or character.

No; the psychiatrist is quite aware of the possible fallacies: the abstraction and reification (personality, e.g.) and the reverse order of reasoning. A sociopathic personality disorder does not "cause" an individual to defy the rules of society; contrariwise, it is the habitual breaking of the rules that causes us to label the individual sociopathic. Something called hysteria does not result in an autosuggested paralysis or amnesia; it is the other way around. Epilepsy does not "cause" convulsive seizures; the history of convulsions calls for the diagnosis of epilepsy.

In other words and emphatically the psychiatrist is concerned not with what a person "is" but with what he does. When scientific reference is made to behaviour disorders (things actually said and done) we also have to avoid any implication of moral judgment.

Now there are various behaviour patterns or traits which a child might find expedient and which we would consider appropriate or at least tolerable: the infant's utterly selfish striving for oral gratification; the experimental stubbornness of the child vis-a-vis authority; the seemingly playful coquetishness of a daughter competing with the mother (and all other women) for the attention of the father (and all other men).

What defines a personality disorder — what a personality disorder does — is to continue behaving in a childish manner. He has simply not

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learned or been taught to conduct himself as an adult.

1. *Inadequate* personality types resemble children who have not learned to take responsibility. They lack resourcefulness. When something very obvious needs to be done, they still have to be told: tidy up your quarters; don't spend all of your allowance the first day; turn off the television and go to bed. The inadequate are indecisive and they look about for guidance. By their indecision they allow or invite stressful situations to develop, and then they become ineffectual, go to pieces. Their "solution" of a predicament may be to run away or to take a small overdose of sedatives. They are unorganized. They waste energy and time on trivial matters at the expense of getting more important tasks out of the way. They cannot get themselves up in the morning or manage to be on time for an appointment. These are often the syndromes of the intimidated younger sibling: better not to compete or be too conspicuously successful. Inadequate personalities have not relinquished the (demanding) helplessness of children.

2. *Schizoid* personality types are like children who will be slapped again if they disagree or protest. They freeze. They learn never to express any anger. They withdraw behind a mask of indifference, of non-feeling. Not having had permission to speak out, they will remain silent, aloof. It is easier to listen to records than to people. It is safer to play with inanimate objects (collect stamps, e.g.) than to come into contact with persons. "Because thou art lukewarm and neither cold nor hot, behold I will begin to spit thee out of my mouth." One must be encouraged both to hate and to love or one will do neither.

3. *Paranoid* personality types (not the disease!) remind us of children who are so oversensitive to censure that they lie to avoid it — and their rationalizations are so automatic, so habitual, that they themselves are almost convinced. They believe in the magic of words: their excuse or avowed intention is more important than the fact or event. A verbal "explanation" will do away with reality. A classical example involved a surgeon who was reprimanded for doing a sterilization procedure in his office. He "solved" the problem by lettering "Operating Room" on one door of his office. Then he began "forgiving" his persecutors who could not agree that by changing the words he had corrected the malpractice. Another paranoid physician was in the habit of saying, "Now when I was at Mayo Clinic—." When it was discovered that he had just driven through the grounds on a Sunday afternoon, he sweetly disclaimed any misrepresentation, "forgave" us for misunderstanding him. Paranoids are poseurs. (" I am not a scientist; but if I wear a beard I will look like a scientist and then people will treat me like a scientist.") In their affectations they solicit special deferences which they do not really merit. Though their accomplishments may be quite ordinary they cannot bear to assess themselves or be assessed as ordinary. And because they are always able to put the blame someplace else they become the most plausibly dishonest people in the world. They are like children who immediately start arguing, "Well, it couldn't have been my fault."

4. *Emotionally unstable* personality types are comparable with infants and eighth-graders (as infants and eighth-graders are not unlike). They over-react to everything. They cannot take no or delay for an answer. Their desires are anguished imperatives: they "have to" have this stereo record or that pair of shoes or that convertible right now or they will just die. Any frustration will provoke wailing self pity or a door-slamming temper tantrum. They can go from elation to despair in ten minutes. They can "fall in love" on a first date. When they are wanting something they make briefly heroic resolutions and court us extravagantly; otherwise we simply do not exist.

5. *Obsessive-compulsive* personalities bring into adult life the primitive value systems of the worried child. On the teeter-totter of their conscience they give just as much weight to their thoughts and feelings as they do to their actual words and deeds. They assign themselves an impossible task; they are always partly in the wrong. No matter how carefully they control their words and deeds they are still unable to

account for their ambivalent thoughts and feelings. Blaming themselves and expecting punishment even for the uncontrollable inner workings of their minds, they ward off the wrath of a bewildered God by endless ritual atonements and propitiations. They are afraid to relax — or to let anyone else relax — lest some quite normal anger or desire might bring down a bolt of lightning on their heads. Semantically crippled, they are afraid to acknowledge that (like the rest of us, and normally,) they have mixed feelings of appreciation and resentment toward everyone of any relationship to them.

6. *Passive-aggressive* personality types do to others what obsessive-compulsives do to themselves: they keep score — and they always get even. They never let any wrong go unpunished. The aggressive type (if he can get away with it) will carry the placard of protest. Like a little boy furtively discovering the anatomical facts of life, he will pat every cocktail waitress or embrace every woman at the party. Or he will try hard to seduce the wives of his "friends," not out of love or care but in conquest. The aggressive type may be an overcompensating promoter or auctioneer or salesman whose motivation is less toward the sale itself than toward a smilingly sadistic demonstration that he has dominated or manipulted his customers. He may have a subtly warped kind of pseudo-generosity: because he is ready to do anything for you that *he* wants to do, he expects you too to be willing to do anything that he wants. If there is conflict, your objections are swept aside. Even his way of speaking is sometimes aggressive. At the end of a sentence he will add, "See?" or "Right?" as if you had better not disagree. He is the "life of the party" as long as he gets his own way. The need for dominance (really the fear of submission) takes first and constant place in his economy. (In many cases when psychiatrists refer to reaction formations against latent homosexuality they mean this fear of submissiveness which has only remotely sexual implications).

Passive types of passive-aggressive personalities (the other half of sado-masochism) are no less aggressive, but in more covert and indirect ways. They are like unhappy children who will do nothing to make themselves happier. They will sit there and cry or sulk until someone picks them up and comforts and carries them. They go on strike. They had rather proclaim their grievance than correct it. They are martyrs. But they do get revenge! A man on his honeymoon thoughtlessly expressed admiration of a showgirl's figure. His flat-chested wife has been frigid ever since. A lawyer found fault with his spouse's tardiness and thereby hurt her feelings. Every morning, just as he is hurrying to leave for work, she comes out in her bathrobe and asks if he wants her to fix his breakfast. When he neglects her and indulges his flirtatiousness at a party, she drinks so much that she has to be taken home. With wide-eyed innocence she sabotages every effort he makes to have something in common. One way or another she will emasculate him — and then forgive him for his frantic protests. I know a man whose mother did not protect him from an abusive older brother. He has since spent a lifetime relentlessly proving that no woman can make him feel secure or happy. Some kinds of obesity and almost all cases of anorexia nervosa involve the passive-aggressive personality types.

7. *Sociopathic* personality types are grown-up children who have failed to develop any supergo of their own. They engage in an endless contest with authority. They feel rather triumph than remorse for their transgressions; they are only sorry if they get caught. They seem to have irresistible impulses; i.e., demands for immediate gratification of their wishes, without any consideration for the rights of others. But the alienist remembers the old "policeman-at-elbow" test. The sociopath, amoral as a savage, will behave himself only when the policeman is right there beside him. He will treat persons as the alcoholic treats whiskey bottles, — when they have nothing more to offer him they will be empty and broken and cast aside.

Well, space permits only a sketchy and incomplete identification of these different personality disorders. What do they have in common?

They all act in ways that were necessary or appropriate in childhood. They are all egocentric, as children are; and as a corollary they are incapable of thoughtful concern for others. They treat others as they treated their parents and teachers, and they expect and demand to be treated as if they were children.

Are they ill? No; not in the usual meaning of the term. Pattern or trait disorders of the personality are analogous to defects of physical stature or habitus or physique. Just as one may be cursed with a relatively stunted or ugly body, one may grow up with a weak or deformed or offensive personality.

And it is just as hard to change the basic personality structure as it would be to make over or improve the physiognomy and physique of an ill-bred or unfortunate adult. The training or retraining of any of the personality disorders is a long and arduous task.

How do we teach the inadequate to assume adult responsibility? How do we coax the schizoid back from his exile? Who will convince the paranoid that his rationalizations are unnecessary and invalid? Who will set an example of dignity and restraint for the emotionally unstable? Who in our religious culture will re-educate the obsessive-compulsive to judge himself only by what he says and does and not at all by what he thinks and feels? Who will teach the passive-aggressive to be a good sport if he has never been one before? When will the sociopath incorporate a conscience of his own and no longer need the policeman-at-elbow?

Personality disorders naturally occupy a classification separate from the various psychoses and neuroses and psychophysiological disorders. But this may be a bit misleading. Inadequate, schizoid, cyclothymic and paranoid personalities are often pre-psychotic. Emotionally unstable, obsessive-compulsive and passive-aggressive personality types are pre-neurotic. While personality disorders as such are not ill, they are obviously most vulnerable to psychotic or neurotic breakdowns. They constitute the greatest percentage of patients who present themselves with anxiety states or neurotic depressions or hysterical reactions or alcoholisms or sexual deviations. The defective personality structure is a scaffolding for the psychiatric or psychosomatic illness. Hence it is informative in most cases to make two (vertical) diagnoses: the present illness and the underlying personality disorder. One may treat the psychoneurotic or psychophysiological disturbance by conservative means and with some success. If one will take the trouble to understand the origins and characteristics of the personality itself there will be less likelihood of disappointment and dismay in dealing with these unfortunates.

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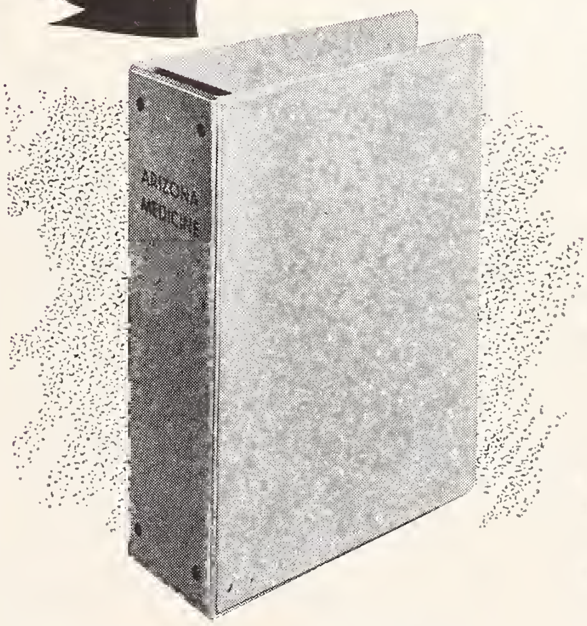
FILE



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Aminophylline	130 mg.
Phenobarbital, Caution: May be habit forming	21 mg.
Ephedrine HCl	16 mg.

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Precautions: Usual for aminophylline-ephedrine-phenobarbital. Iodides may cause nausea, long use may cause goiter. Discontinue if symptoms of iodism develop.

Iodide contraindications: tuberculosis, pregnancy.

DOSAGE

One tablet, with full glass of water, 3 or 4 times daily.

Dispensed in bottles of 100 and 1000 tablets.

MUDRANE GG—Formula, dosage and package identical to Mudrane—*except*—100 mg. glyceryl guaiacolate replaces the potassium iodide. The value of Mudrane cannot be enjoyed by a small group in which K.I. is contraindicated. Mudrane GG is prepared for this group.

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Therapeutic Effects: Tandearil is a nonhormonal compound which may rapidly resolve inflammation and help restore normal joint function. Its action does not affect pituitary-adrenal function or impair immune responses. Its value in osteoarthritis is especially noteworthy because this disorder responds inconsistently to steroids and is often resistant to salicylates. Further, indomethacin is limited only to osteoarthritis of the hip, whereas oxyphenbutazone is effective in all forms of the disease.

Contraindications: Edema; danger of cardiac decompensation; history or symptoms of peptic ulcer; renal, hepatic or cardiac damage; history of drug allergy; history of blood dyscrasia. The drug should not be given when the patient is senile or when other potent drugs are given concurrently.

Warning: If coumarin-type anticoagulants are given simultaneously, watch for excessive increase in prothrombin time. Pyrazole compounds may potentiate the pharmacologic action of sulfonylurea, sulfonamide-type agents and insulin. Carefully observe patients receiving such therapy. Use with great caution in the first trimester of pregnancy.

Precautions: Obtain a detailed history and a complete physical and laboratory examination, including a blood count. The patient should be closely supervised and should be warned to report immediately fever, sore throat, or mouth lesions (symptoms of blood dyscrasia); sudden weight gain (water retention); skin reactions; black or tarry stools or other evidence of intestinal hemorrhage. Make regular blood counts. Discontinue the drug and institute countermeasures if the white count changes significantly, granulocytes decrease, or immature forms appear. Use greater care in the elderly and in hypertensives.

Adverse Reactions: The most common are nausea, edema and drug rash. The drug has been associated with peptic ulcer and may reactivate a latent peptic ulcer. Infrequently, agranulocytosis, or a generalized allergic reaction may occur and require withdrawal of medication. Stomatitis, salivary gland enlargement, vomiting, vertigo and languor may occur. Leukemia and leukemoid reactions have been reported but cannot definitely be attributed to the drug. Thrombocytopenic purpura and aplastic anemia may occur. Confusional states, agitation, headache, blurred vision, optic neuritis and transient hearing loss have been reported, as have hyperglycemia, hepatitis, jaundice, and several cases of anuria and hematuria. With long-term use, reversible thyroid hyperplasia may occur infrequently. Moderate lowering of the red cell count due to hemodilution may occur.

Dosage in Osteoarthritis: The initial daily dosage in adults is 300-600 mg. in divided daily doses. When improvement occurs, dosage should be decreased to the minimum effective level; this should not exceed 400 mg. daily, and is often achieved with only 100-200 mg. daily.

For complete details, please refer to full prescribing information. 6562-VI(B)R

Availability: Tablets of 100 mg.

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Geigy

Tandearil®
oxyphenbutazone

helps osteoarthritic joints move again

3 out of 4 osteoarthritics completely or markedly improved

Sperling, I.L.: 3 Years' Experience with Oxyphenbutazone in the Treatment of Rheumatic Disorders, Applied Therapeutics 6:117, 1964.	76.9% of 407 patients
Watts, T.W., Jr.: Treatment of Rheumatoid Disorders with Oxyphenbutazone, Clin. Med. 73:65, 1966.	84.6% of 39 patients

Please see adjoining page for brief prescribing summary.

TA-4919 PC

even better together
in mild hypertension
Serpasil®-Esidrix®
(reserpine and hydrochlorothiazide CIBA)
Combination Tablets

Serpasil-Esidrix combines reserpine (the original, and most widely used, rauwolfia alkaloid developed by CIBA) with hydrochlorothiazide (the most widely used oral diuretic, also a product of CIBA research).

even better blood pressure reduction—because 2 antihypertensive agents of choice often work better together

One drug potentiates the antihypertensive action of the other. Blood pressure is generally controlled with relatively low dosages of each component, often resulting in minimized side effects.

Although each component alone may provide adequate therapy in many cases of mild hypertension, the combination offers advantages which cannot be achieved with single-drug therapy.

even more patient benefits—because complementary actions of 2 antihypertensive agents extend the range of advantages

Reserpine, in addition to lowering blood pressure, provides central calming action to help relieve anxiety and tension; provides bradycrotic action to slow the rapid heart.

Hydrochlorothiazide, in addition to lowering blood pressure, relieves edema; permits relaxation of salt restriction.

The combination provides medication in one tablet instead of two; one prescription instead of two—encourages patient adherence to the regimen, offers economy.

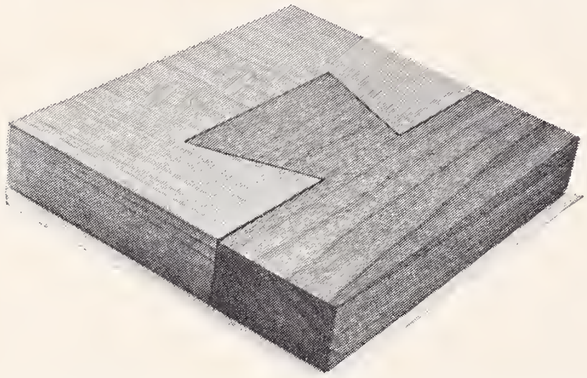
for your next patient with mild hypertension

Rx Serpasil-Esidrix

Combination Tablets

Please see following page for prescribing information.

Serpasil®-Esidrix®
(reserpine and hydrochlorothiazide CIBA)
Combination Tablets



INDICATIONS: Mild to moderate hypertension, especially when complicated by anxiety, tachycardia, or edema.

SIDE EFFECTS AND PRECAUTIONARY MEASURES

Serpasil® (reserpine CIBA)
Occasional side effects: lassitude, drowsiness, nasal congestion, looseness of stools, increased frequency of defecation. Rare side effects: anorexia, headache, bizarre dreams, nausea, dizziness, skin rash.

Severe mental depression has appeared in a small percentage of patients, primarily in a dosage above 1 mg daily. When the drug is discontinued, depression usually disappears, but hospitalization and shock therapy are sometimes required.

Caution: Withdraw reserpine 2 weeks before surgery, if possible. For emergency surgical procedures, give vagal blocking agents parenterally to prevent or reverse hypotension and/or bradycardia.

Because reserpine may increase gastric secretion of hydrochloric acid, use cautiously in patients with peptic ulcer.

Use cautiously with digitalis, quinidine, or guanethidine. Not recommended for aortic insufficiency.

Esidrix® (hydrochlorothiazide CIBA)
Contraindictions: Oliguria, renal shutdown, progressive hepatic disease, and allergy to thiazides.

Warnings: Stenosis, hemorrhage, and ulceration of the small bowel have occurred with coated potassium tablets. Discontinue such medication when used with Esidrix if gastrointestinal disturbances arise.

Pay special attention to electrolyte balance of patients with severe renal or hepatic insufficiency. In patients with cirrhosis and ascites, watch for symptoms of impending hepatic coma. Thiazides may decrease glucose tolerance; use cautiously in diabetics. Hyperuricemia may occur but is readily reversed by a uricosuric agent. Lowering of blood pressure may sometimes result in nitrogen retention, particularly in patients with impaired renal function. Dosage titration is necessary in such patients.

Precautions: Watch for signs of fluid or electrolyte imbalance. Further electrolyte depletion may cause hypochloremic alkalosis and hypokalemia. Since the latter may precipitate digitalis intoxication, watch carefully patients who are taking digitalis or its glycosides or those with cardiac arrhythmias. In severe hypokalemia, large oral or intravenous doses of potassium may be required.

A few infants born of mothers who received thiazides during pregnancy have shown bone marrow depression with thrombocytopenia. Hydrochlorothiazide decreases responsiveness to exogenous norepinephrine and increases responsiveness to tubocurarine. Hypotensive episodes under anesthesia have been observed in some patients receiving thiazides.

Side Effects: In addition to those above, nausea, anorexia, headache, restlessness, constipation, dizziness, paresthesias, fatigue, increased sweating, cramps in arms and legs, diarrhea, abdominal pain. Rare reactions: purpura with or without thrombocytopenia, skin rash, photosensitivity, urticaria. Sometimes associated with hydrochlorothiazide: leukopenia, agranulocytosis, aplastic anemia, pancreatitis, jaundice, necrotizing vasculitis.

DOSAGE
Average dosage is 2 *Tablets #2* daily. For patients requiring less hydrochlorothiazide, substitute *Tablets #1*. For maintenance, reduce dosage to lowest effective level. When necessary, more potent antihypertensive agents may be added gradually in reduced dosages.

SUPPLIED
Tablets #2 (light orange), each containing 0.1 mg reserpine and 50 mg hydrochlorothiazide; bottles of 100 and 1000. *Tablets #1* (light orange), each containing 0.1 mg reserpine and 25 mg hydrochlorothiazide; bottles of 100 and 1000.

Consult complete literature before prescribing.

CIBA Pharmaceutical Company, Summit, N. J. CIBA

2/8595

Dr. Dysterheft

P. L. 89-749

It is amazing and difficult to comprehend the magnitude and immensity of the social legislation, most of it with health care components, which was passed by the 89th Congress. To assess this legislation insofar as its impact on the people is concerned from its social, economic and medical implications, presents a manhour work equivalent of astronomical proportion to effect a basic understanding of its legal requirements. One such "sleeper" act signed into law by the President on November 3, 1966, is Public Law 89-749, "The Comprehensive Health Planning and Public Health Services Amendments of 1966," described by the Secretary of Health, Education and Welfare as one of the most important health bills passed by a Congress in the past thirty years. Little has been heard of this until recently, since the two top agencies needed to implement the Act, namely, a single State Agency to administer or supervise the administration of the State Health planning function, and its advisory council, have not been officially appointed by the Governor.

The dimensions of the framework in Arizona's Comprehensive Health Planning would include and involve the cooperation of twenty different State Departments and agencies performing legally mandated health functions; fourteen county health departments, more than one hundred voluntary health agencies, along with many other voluntary and licensed State Boards, as well as the State Universities and Junior Colleges involved in training and developing health manpower and in carrying out health research. This is merely a nutshell survey of this Act, designed to encourage cooperative efforts among government and non-government agencies, organizations and groups concerned with health service facilities and manpower.

The appropriate committees, as well as the Board of Directors of ARMA, are involved in the study and perhaps propitious evaluation of this public law. It behooves every physician to familiarize himself well with all of its facets, for this is another area where physicians' services will be needed, contracted for, asked for and given to agencies with governmental directives and overtones.

Finally, it is of import and the purpose of this message that the membership be alerted to the fact that an appropriate single state agency be appointed as the state agency to implement this law in Arizona. Your Board of Directors has twice spoken, seeking this agency to be the State Health Department. This department has the unique competency and capability to carry out this responsibility, and at the same time be fully accountable to the Governor and the Legislature.

Be informed, become involved, help give enlightened guidance.

Arnold H. Dysterheft, M.D.
President

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Preludin effectively reduces appetite. Preludin's ability to help patients shed weight has been described in more than 300 published clinical reports involving more than 10,000 patients. It will work in your weight-control programs too.

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ontraindications: Severe coronary artery disease, yperthyroidism, severe hypertension, nervous nstability, and agitated prepsychotic states. Do not se with other CNS stimulants, including MAO hibitors.
arning: Do not use during the first trimester of regnancy unless potential benefits outweigh ossible risks.
recautions: Use with caution in moderate hyper-ension and cardiac decompensation. Cases involving buse of or dependence on phenmetrazine hydrochloride have resulted in a psychotic illness manifested by restlessness, mood or behavior changes, hallucinations, or delusions. Do not exceed recommended dosage.
Side Effects: Dryness or unpleasant taste in the mouth, urticaria, and (rarely) overstimulation, insomnia, dizziness, nausea, urinary frequency or nocturia, or headache.
For complete details, please see full Prescribing Information. (B)46-560A

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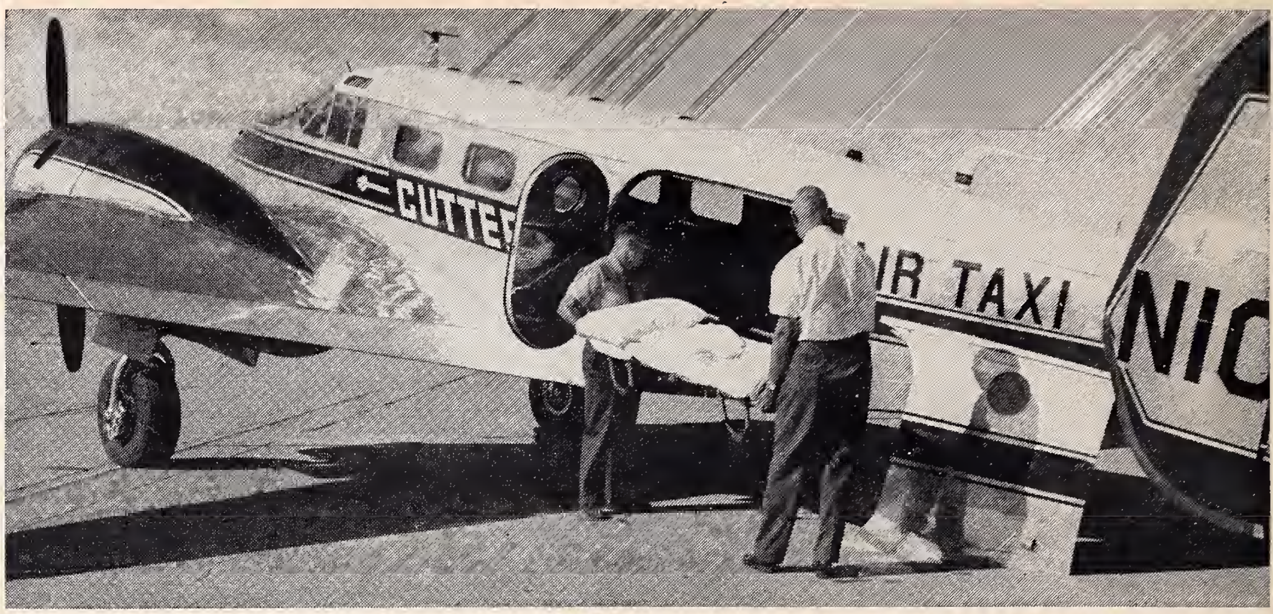

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The First Class: A Profile—

The competition is now over and the 32 positions in the first class of Arizona's new College of Medicine are filled. There is no denying that we are very pleased with the results and we are looking forward to the arrival of this first class with much enthusiasm.

Apparently there was enough public discussion, and publicity in such journals as the Journal of the American Medical Association, about the projected opening of this medical school, to stimulate a broad level of interest from potential students throughout the United States and from several foreign countries. Letters of inquiry with respect to the first class had already begun to arrive in our office early in 1965 and, by late summer of 1966 we had received between 1100 and 1200 such letters. All of these did not mature into qualified applicants, of course. However, approximately 600 did. Out-of-state applications outnumbered those from Arizona residents by about five to one. This is not unexpected. On the contrary, although it is an interesting statistic, it should not detract from the more important observation that we had over 130 fully qualified applications from residents. This is almost twice as many as Arizona has ever generated.

Although we did not accept any applications after February 1, 1967, we actually began the processing of the early-arrived applications the preceding September. The college transcripts, the letters of recommendation, Medical College Admission Test scores and all other relevant data were reviewed, and arrangements were made for personal interviews, on behalf of all applications that came from Arizona residents. As many interviews as could possibly be arranged for the out-of-state applicants were also scheduled. This went on throughout the fall but by mid-February the interviewing procedure ended. When our work was finished, we found that we had accepted a total of 48 students over the six-month period. Every one of these students had also been accepted by at least one other medical school and, in the great majority of instances, each of the students had been accepted at several other medical schools. Seventeen of these students ultimately elected to withdraw their applications and go elsewhere (most of these students were Arizona residents). This gave us the opportunity to advance the first name on the alternate list, and we did so.

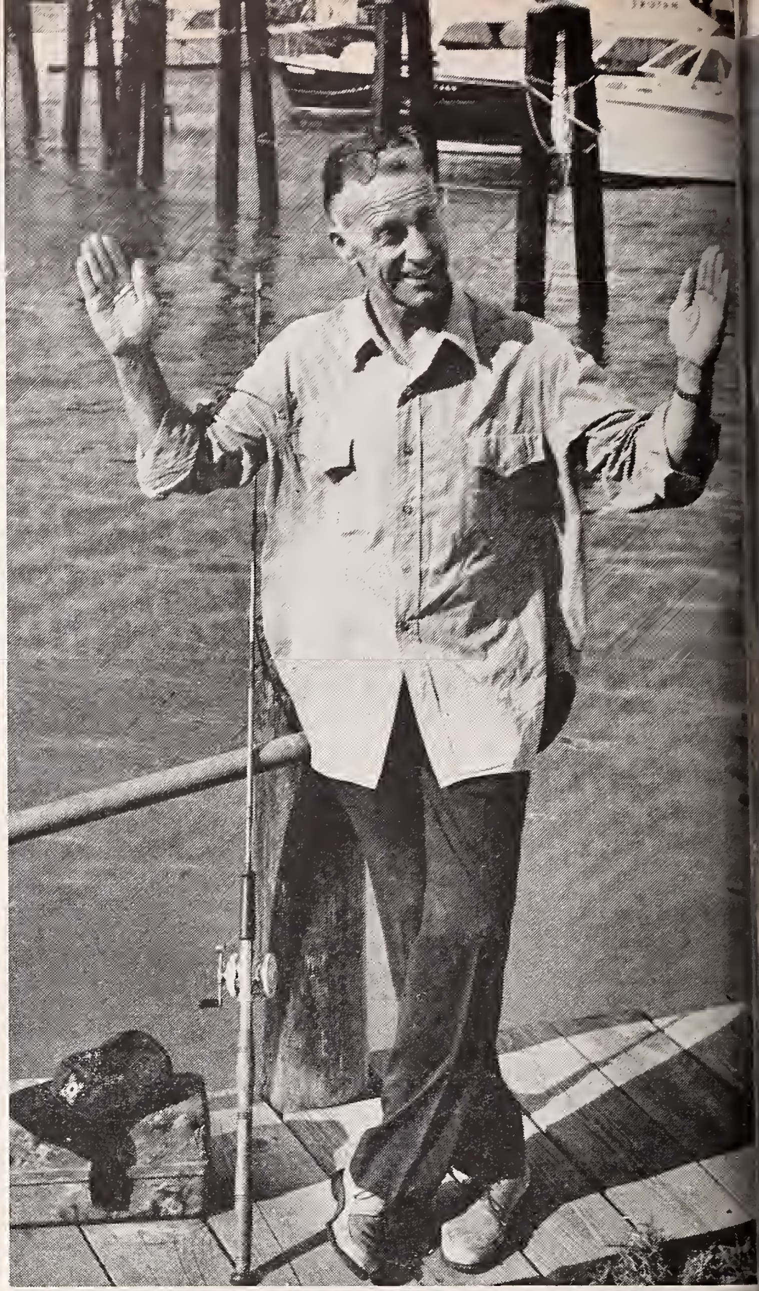
Some of the highlights represented by this first class include the following. The students represent 12 campuses, as follows: the University of Arizona and Arizona State University 12 each; one each from Northern Arizona University, the University of Utah, Holy Cross, Occidental, the University of California at Berkeley, Stanford, Pasadena and Southern Methodist University. Twenty-eight of our students are residents of the State of Arizona; two will be coming from California; one each is coming from Utah and Nevada. The students who are residents of Arizona represent the following communities: Phoenix 15, Tucson eight, and one each from Cottonwood, Flagstaff, Prescott, Thatcher and Yuma.

On the personal side, 26 of the students are men and six are women. Seven of the men students are married and three of them are fathers. The six females are single. The average age of the group is 22 and the average grade point average is 1.75 (A equals 1.0). With respect to the Medical College Admissions Test scores, 18 of the 32 students registered scores in excess of 600 (800 is theoretically perfect) and the highest single score was 745.

One of our students will have received his Bachelor's Degree in three years, instead of the customary four, and one is coming to us from the private practice of law. We have been interested to note that every one of these students has given over some portion of his time to gainful employment while in college. The spread of such employment has been broad and has encompassed construction work, sales, clerking in grocery stores or cafeterias, hospital work, Boy Scout and Girl Scout activities. Our interviews revealed that these students are very strongly motivated toward careers in medicine. It was of interest that the majority of the students interviewed expressed an interest of working within a medical specialty. A few have indicated a desire to remain in academic medicine or research.

Monte DuVal

Picture of bursitis



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Paraflex® (chlorzoxazone)* 250 mg.
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Parafon Forte helps to relieve pain, restore mobility . . . stop pain-spasm feedback

Here is why. PARAFON FORTE provides:

a nonsalicylate analgesic equal to aspirin for the relief of pain,[1,2] yet unlikely to produce the irritation to the gastric mucosa so often associated with salicylate therapy[3]

and a skeletal muscle relaxant shown to have up to a 6-hour span of action,[4-6] and to retain effectiveness even on continued administration,[5-7] but which does not have the central effects of tranquilizing compounds.

Prescribe PARAFON FORTE for lasting spasmolysis and analgesia in sprains, strains, myalgias, low back pain, bursitis and other musculoskeletal disorders. Your patients will appreciate the restored comfort and lasting freedom of movement it usually provides.

Cautions and side effects: Use with caution in patients with known drug sensitivity. If a hypersensitivity reaction or symptoms suggestive of liver dysfunction are observed, the drug should be stopped. Occasionally, drowsiness, dizziness, lightheadedness, malaise, overstimulation or gastrointestinal disturbances may be noted; rarely gastrointestinal bleeding, allergic skin rashes, petechiae, ecchymoses, angioneurotic edema or anaphylactic reactions may have been drug associated. While *Paraflex* (chlorzoxazone) has been suspected as being the cause of hepatic toxicity in approximately eighteen patients, it was not possible to state that the dysfunction was or was not drug induced. ***Dosage:*** Two tablets q.i.d. ***Supplied:*** Scored, light green tablets, imprinted "McNEIL"—bottles of 100.

References: 1. Batterman, R. C., and Grossman, A. J.: Fed. Proc. *14*:316, 1955. 2. Goodman, L. S., and Gilman, A., ed.: The Pharmacological Basis of Therapeutics, ed. 3, New York, The Macmillan Company, 1965, p. 331. 3. Roth, J. L. A., *et al.*: Gastroenterology *44*:146, 1963. 4. Conney, A. H., and Burns, J. J.: J. Pharmacol. Exp. Ther. *128*:340, 1960. 5. Settel, E.: Clin. Med. *6*:1373, 1959. 6. Berman, H. H., *et al.*: Dis. Nerv. Syst. *25*:430, 1964. 7. Darienzo, C.: Ibid., *27*:189, 1966.

*U. S. PATENT NO. 2,895,877

McNEIL

McNEIL LABORATORIES, INC., FORT WASHINGTON, PA.

New view of an oral contraceptive at work

Although suppression of ovulation remains the primary mode of action of oral contraceptives, newer knowledge indicates that products like Norinyl-1—a combination of both low-dosage progestogen and estrogen for the full treatment cycle—may provide multiple action that helps explain their unexcelled record of contraceptive effectiveness. This report explores the possible secondary protective mechanisms offered by combined hormonal administration.

Accumulating evidence has indicated that sparse, highly viscous cervical mucus has a possible adverse effect on the motility and survival of spermatozoa.

The estrogen-opposing progestational ingredient of Norinyl-1 (norethindrone 1 mg. with mestranol 0.05 mg.) changes the usual midcycle picture of a thin, watery cervical mucus. The result—a built-in barrier that appears to inhibit sperm from reaching the ovum should one be released. The inset in the adjoining photograph shows immobile spermatozoa as they appear in cervical mucus taken from a patient treated with Norinyl-1.

See last page for contraindications, precautions, side effects and dosage.

How the estrogen-opposing action of Norinyl-1 creates cervical mucus that may be hostile to sperm penetration

Normally, estrogen activity during the fertile midcycle stimulates the production of a profuse and watery cervical mucus that permits maximum sperm motility and promotes penetration.

But what happens when Norinyl-1 is administered? Its potent progestogen, norethindrone, opposes estrogen stimulation of cervical mucus. Consequently, the amount of mucus decreases and its viscosity increases. This results in a sparse but thick mucus barrier that appears to diminish the vitality of the sperm and to impair its powers of penetration.

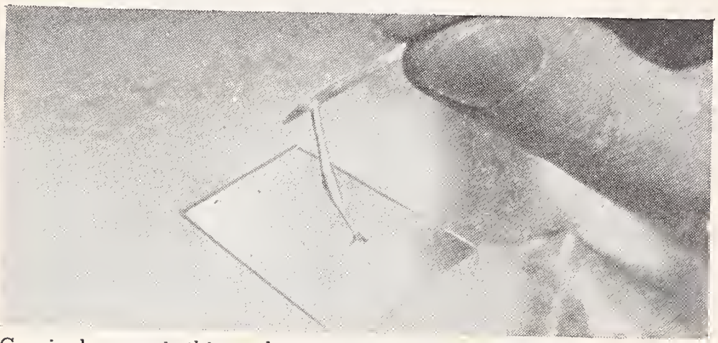
The role of viscous cervical mucus as a secondary action of Norinyl-1

In a report on 89 patients taking this medication,* cervical mucus obtained from cycle day 5 to cycle day 29 appeared scant and thick and exhibited little or no Spinnbarkeit.

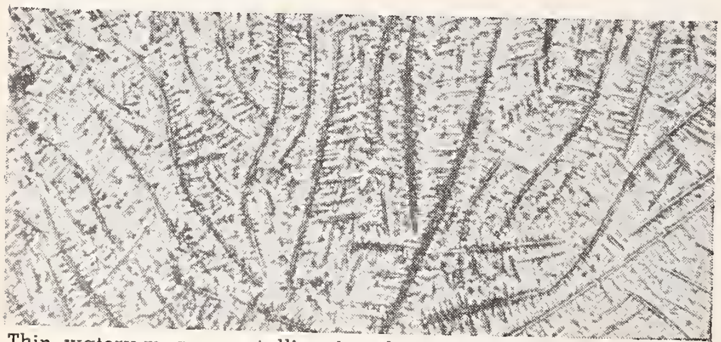
In the opinion of this investigator, the effect on cervical mucus may be sufficient to prevent conception.

*Cohen, M. R.: Symposium: Mechanisms of Action of Low Dosage Oral Contraceptive, Yale University Medical Center, New Haven, Conn., April 6, 1967.

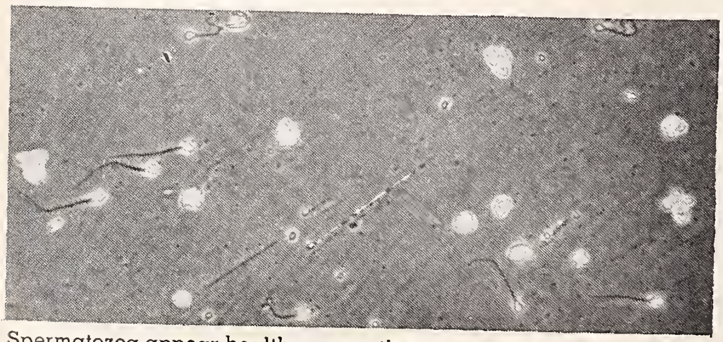
Normal cervical mucus at midcycle in untreated patient is known to permit sperm motility... promote sperm penetration.



Cervical mucus is thin and watery with a stretchability (Spinnbarkeit) of 15 to 20 cm.

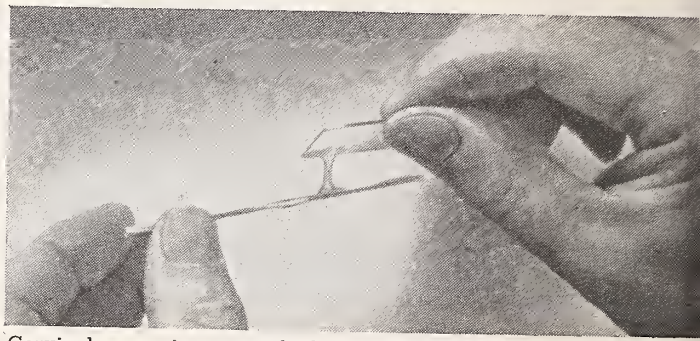


Thin, watery mucus crystallizes into this well-defined, fernlike pattern within a minute.

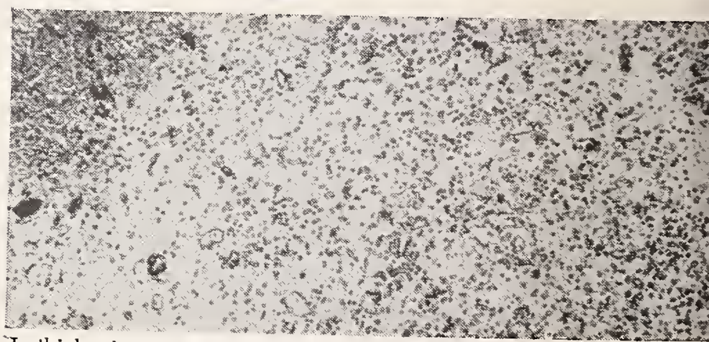


Spermatozoa appear healthy, are active and freemoving.

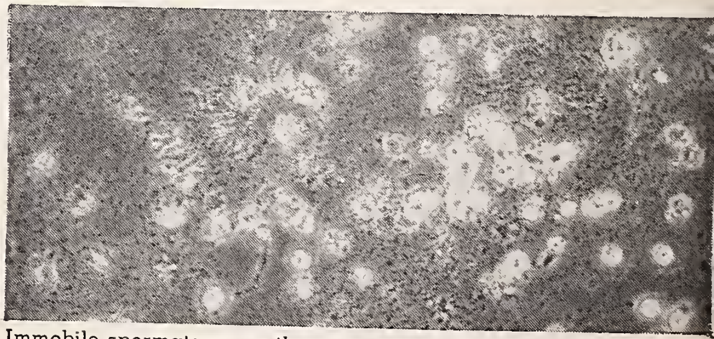
Viscous cervical mucus at midcycle produced by Norinyl-1 appears to impair sperm vitality... inhibit penetration.



Cervical mucus is scanty, thick and viscous. Spinnbarkeit is 1 cm. or less.



In thick, viscous cervical mucus the fern pattern is poorly defined or absent.

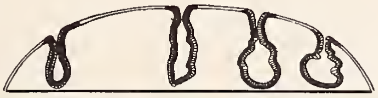


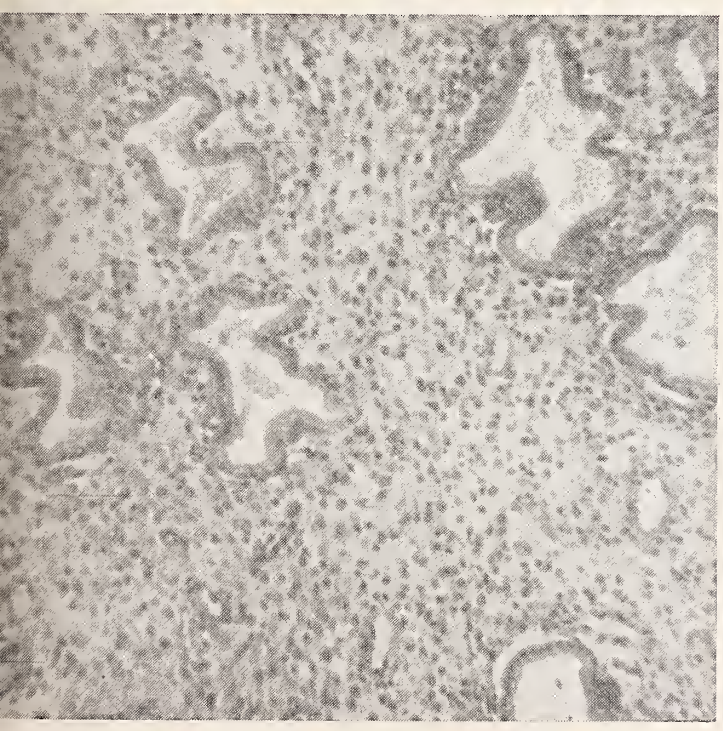
Immobile spermatozoa as they appear in cervical mucus taken from a patient treated with Norinyl-1.

How Norinyl-1 alters normal endometrial responses– another possible protective mechanism

Let us suppose that an ovum is released—as occurs in an occasional, rare case—and somehow a sperm succeeds in penetrating the cervical mucus barrier. Should this come about, one additional action of Norinyl-1 may protect the patient rom unwanted pregnancy. The theory is that progestogen intake makes endometrial tissue unreceptive to implantation.

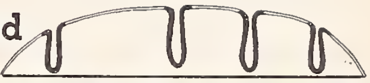
Endometrium of untreated patient

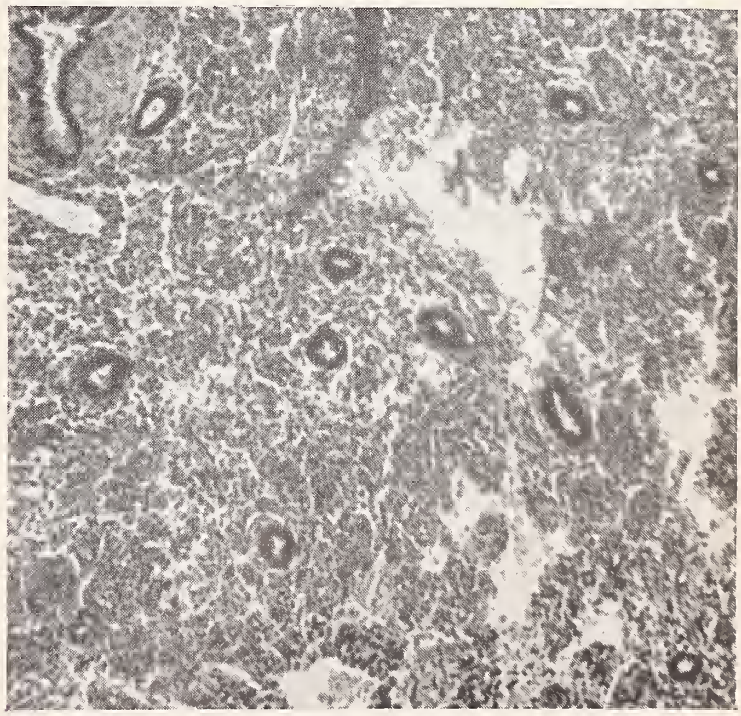




Normally, the endometrium progresses through a proliferative phase stimulated by estrogen and a secretory phase stimulated by progesterone. During the secretory phase the endometrium is eceptive to the fertilized ovum.

Endometrium produced by Norinyl-1





When Norinyl-1 is administered its progestogen component—norethindrone—accelerates the secretory phase and suppresses glandular and vascular development.

See last page for contraindications, precautions, side effects and dosage.

new Norinyl-1® tablets

(norethindrone 1mg. $\bar{c}$ mestranol 0.05mg.)

for multiple contraceptive action

new Norinyl®-1 tablets

(norethindrone 1mg. c̄ mestranol 0.05mg.)

effective fertility control on half the previous dosage

maintains ratio of the established norethindrone/mestranol combination

lower cost

Reduction of oral contraceptive dosage to lowest effective levels has become a well-accepted principle of conservative medical practice. In keeping with this view, Norinyl is now available in a new strength in which *both* norethindrone and mestranol are reduced 50 percent. Studies show that Norinyl-1 achieves fertility control with only 1.05 mg. of combined progestogen and estrogen per tablet.

Norethindrone was first reported for use as a progestational agent in human beings in 1955. Norethindrone 2 mg. with mestranol 0.1 mg., as an oral contraceptive, is currently in use by over 2,000,000 women. Clinical experience now establishes that Norinyl-1 also amply meets the criteria of reliability and safety.*

*Symposium on Low-Dosage Oral Contraception, Palo Alto, Calif., July 15, 1965.

PRESCRIBING INFORMATION

Contraindications: 1. Patients with thrombophlebitis or with a history of thrombophlebitis or pulmonary embolism. 2. Liver dysfunction or disease. 3. Patients with known or suspected carcinoma of the breast or genital organs. 4. Undiagnosed vaginal bleeding.

Warnings: 1. Discontinue medication pending examination if there is sudden partial or complete loss of vision or if there is a sudden onset of proptosis, diplopia, or migraine. If examination reveals papilledema or retinal vascular lesions, medication should be withdrawn. 2. Since the safety of Norinyl-1 in pregnancy has not been demonstrated, it is recommended that for any patient who has missed two consecutive periods, pregnancy should be ruled out before continuing the contraceptive regimen. If the patient has not adhered to the prescribed schedule, the possibility of pregnancy should be considered at the time of the first missed period. 3. Detectable amounts of the active ingredients in oral contraceptives have been identified in the milk of mothers receiving these drugs. The significance of this dose to the infant has not been determined.

Precautions: 1. The pretreatment physical examination should include special reference to breast and pelvic organs, as well as a Papanicolaou smear. 2. Endocrine and possibly liver function tests may be affected by treatment with Norinyl-1. Therefore, if such tests are abnormal in a patient taking Norinyl-1, it is recommended that they be repeated after the drug has been withdrawn for 2 months. 3. Under the influence of estrogen-progestogen preparations, preexisting uterine fibroids may increase in size. 4. Because these agents may cause some degree of fluid retention, conditions that may be influenced by this factor, such as epilepsy, migraine, asthma, cardiac, or renal dysfunction, require careful observation. 5. Although a cause and effect relationship has not been established, Norinyl-1 should be used with caution in patients with a history of cerebrovascular accident. 6. In relation to breakthrough bleeding, as in all cases of irregular bleeding *per vaginam*, nonfunctional causes should be borne in mind. In cases of undiagnosed vaginal bleeding, adequate diagnostic measures are indicated. 7. Patients with a history of psychic depression should be carefully observed and the drug discontinued if the depression recurs to a serious degree. 8. Any possible influence of prolonged Norinyl-1 therapy on pituitary, ovarian, adrenal, hepatic or uterine function awaits further study. 9. A decrease in glucose tolerance has been observed in a small percentage of patients on oral contraceptives. The mechanism of this decrease is obscure. For this reason, diabetic patients should be carefully observed while receiving Norinyl-1 therapy. 10. Because of the occasional occurrence of thrombophlebitis and pulmonary embolism in patients taking oral contraceptives, the physician should be alert to the earliest manifestations of the disease. A cause and effect relationship has not been demonstrated. 11. Because of the effects of estrogens on epiphyseal closure, Norinyl-1 should be used judiciously in young patients in whom bone growth is not complete. 12. The age of the patient constitutes no absolute limiting factor, although treatment with Norinyl-1 may mask the onset of the climacteric. 13. The pathologist should be advised of Norinyl-1 therapy when relevant specimens are submitted.

Side Effects: The following adverse reactions have been observed with varying incidence in patients receiving oral contraceptives: nausea, vomiting, gastrointestinal symptoms, breakthrough bleeding, spotting, change in menstrual flow, amenorrhea, edema, chloasma, breast changes (tenderness, enlargement and secretion), loss of scalp hair, change in weight (increase or decrease), changes in cervical erosion and cervical secretions, suppression of lactation when given immediately postpartum, cholestatic jaundice, erythema multiforme, erythema nodosum, hemorrhagic eruption, migraine, rash (allergic), itching, rise in blood pressure in susceptible individuals, mental depression.

The following occurrences have been observed in users of oral contraceptives. A cause and effect relationship has not been established: thrombophlebitis, pulmonary embolism, neuroocular lesions.

The following laboratory results may be altered by the use of oral contraceptives: increased bromsulphalein retention and other hepatic function tests, coagulation tests (increase in prothrombin, factors VII, VIII, IX and X), thyroid function (increase in PBI and butanol extractable protein-bound iodine and decrease in T^3 values), metapyrone test, pregnanediol determination.

Other side effects reported to have occurred in association with use of this drug are dizziness, hirsutism, pains in legs, back, chest and abdomen, dysuria, drowsiness, vaginal discharge, libido increased and decreased, eruptions, hypermenorrhea, hypomenorrhea, increased appetite, G.U. infections, varicose veins, abdominal fullness, acne, headache, nervousness, allergies, blurred vision, pain in eyes, and itching in eyes. *For complete clinical data, see package insert.*

Dosage and Administration: 1. One tablet of Norinyl-1 is administered orally for 20 days beginning on day 5 of the menstrual cycle. (Count day 1 of the cycle as the first day of menstrual bleeding.) Repeat this dosage schedule for each cycle. 2. If no menstrual period occurs after a cycle of treatment (20 tablets) in which patient adhered to the schedule, the patient must be instructed to resume taking the Norinyl-1 tablets 7 days after the previous 20-day course was completed. For example, if the last pill of a previous cycle had been taken on a Sunday, then a new cycle of treatment should begin on the following Sunday. 3. In the postpartum woman, it is recommended that the first cycle of treatment should begin on day 5 of the first menstrual cycle. However, Norinyl-1 should not be administered during lactation.

Availability: Norinyl-1 (norethindrone 1 mg. with mestranol 0.05 mg.)—Dispensers of 20 and 60 and bottles of 250 tablets.

norethindrone — an original steroid from
SYNTEX
LABORATORIES INC., PALO ALTO, CALIF.

John R. Arnold, M.D.

1917-1967

John met an untimely death in a rolling one-car, trailer, boat accident on a fishing trip April 3, 1967, near Yuma, Arizona. John had been a busy dedicated general practitioner of medicine serving the community of Somerton, Arizona, where he had been the only and beloved doctor to its populus.

John was born July 19, 1917, in Rector, Arkansas, where he spent his busy early years. He graduated from Arkansas State with a BS degree in chemistry in 1940. Before entering the U.S. Army, he engaged in chemical research in plastics for the Ford Research. He served in World War II for 4 years, entering the University of Arkansas School of Medicine in 1946. He graduated with an M.D. Degree in 1950. He reentered the service to take charge of a clearing company in Korea with the rank of captain in the medical corps. He left the service as a captain in the medical reserve having been awarded the Purple Heart and Bronze Star. He moved to Somerton, Arizona, to engage in general practice of medicine.

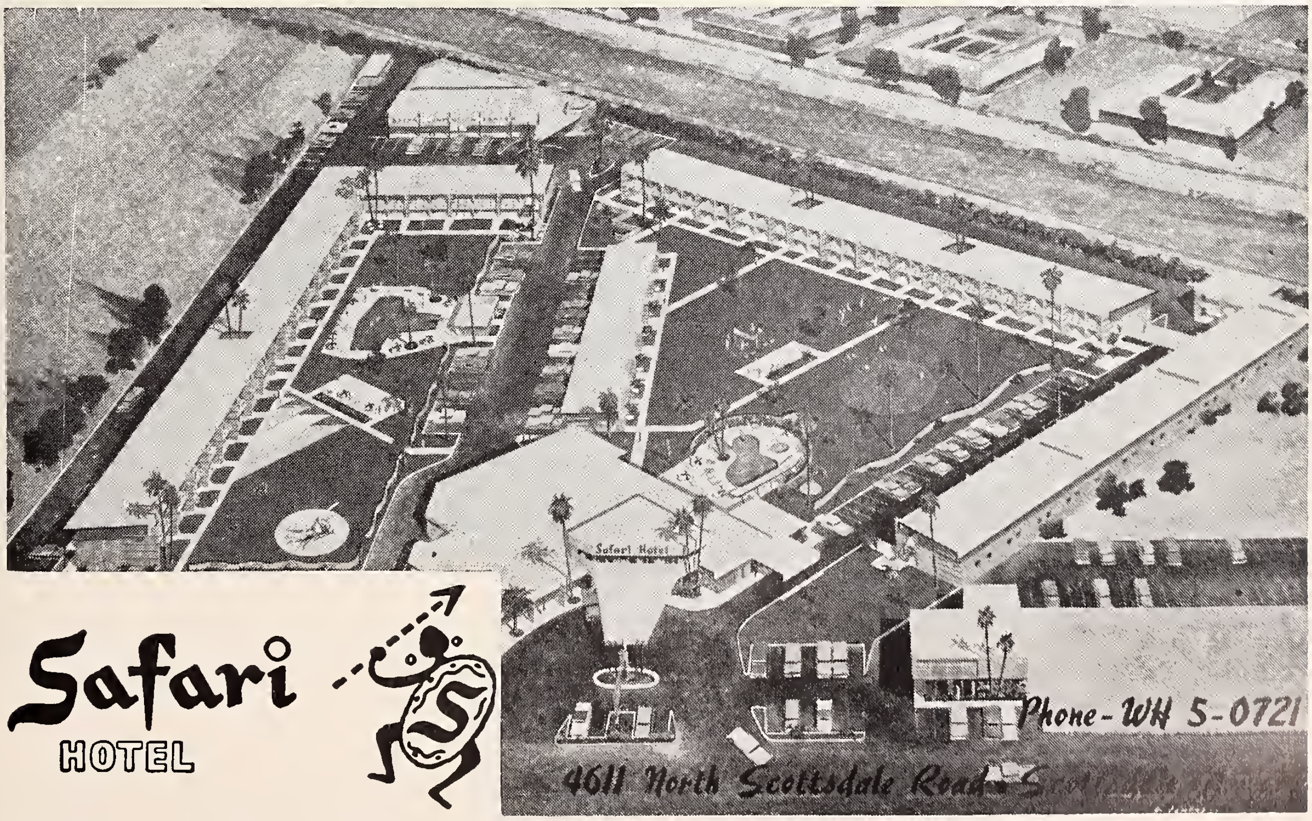
John's practice grew rapidly as his personality and his conservative approach to his patients' problems demanded. He became a charter member of the Somerton Rotary Club. John's good natured grin and easy going manner made many friends. He was slow to anger and was rarely critical of others. He was a champion of those whom he thought to be persecuted.

He served as Vice Chief of Staff at Parkview Hospital at its opening. Since that time, he had served commendably his many offices and duties as a staff member. He was a member of both A.M.A., ArMA, Yuma County Medical Society, and the B.P.O.E.

He is survived by his wife, Freda, of Yuma; a brother, Walt, of Somerton; a sister, Nancy, of Yuma; a son, Bob, serving in the National Guard; a son, Steve, presently in pre-medical education at the University of Arizona; a stepdaughter, Susan, of Yuma; and a 1-year-old grandson.

John leaves a grieving family, many grieving friends, colleagues, and patients. John bequeaths to his intimate friends many fond memories; to those who follow in the practice of medicine, a pattern of honesty, conservatism, and concern for the patient. We miss him.

William A. Phillips, M.D.



Constant care, supervision and companionship
are an integral part of the therapy program at Camelback Hospital.
Whether patients prefer restful hobbies such as TV viewing,
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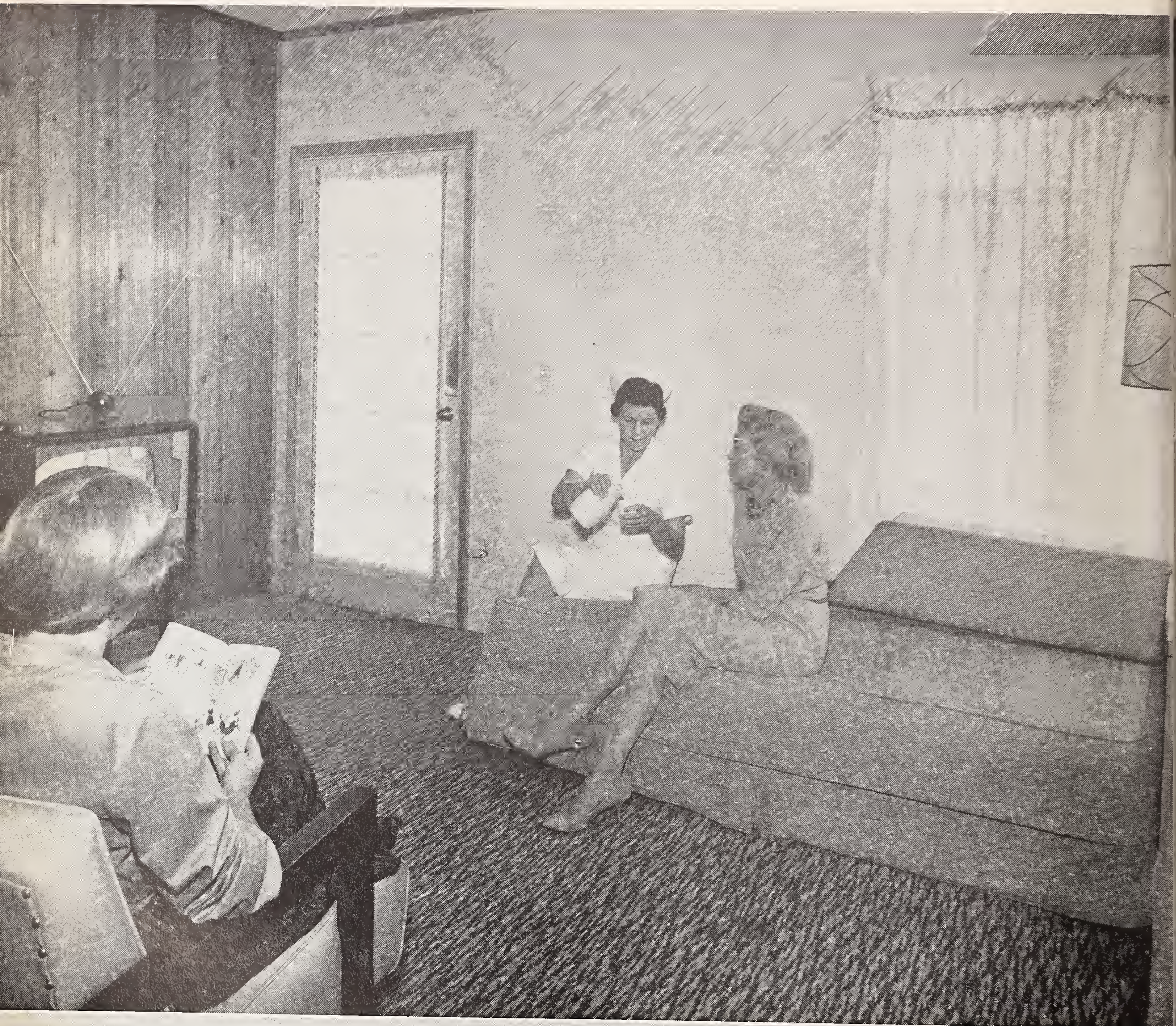

Located in the heart of the beautiful Phoenix citrus area near picturesque Camelback Mountain, the hospital is dedicated exclusively to the treatment of psychiatric and psychosomatic disorders, including alcoholism.

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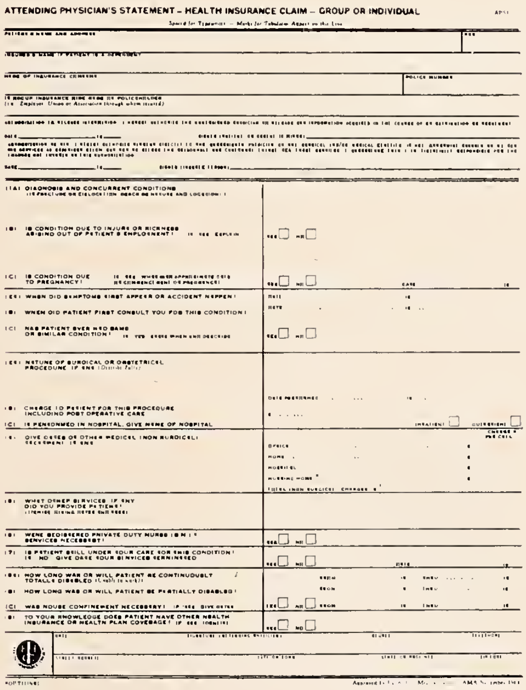

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Penicillin-Sensitive Staphylococci
Beta-Hemolytic Streptococci

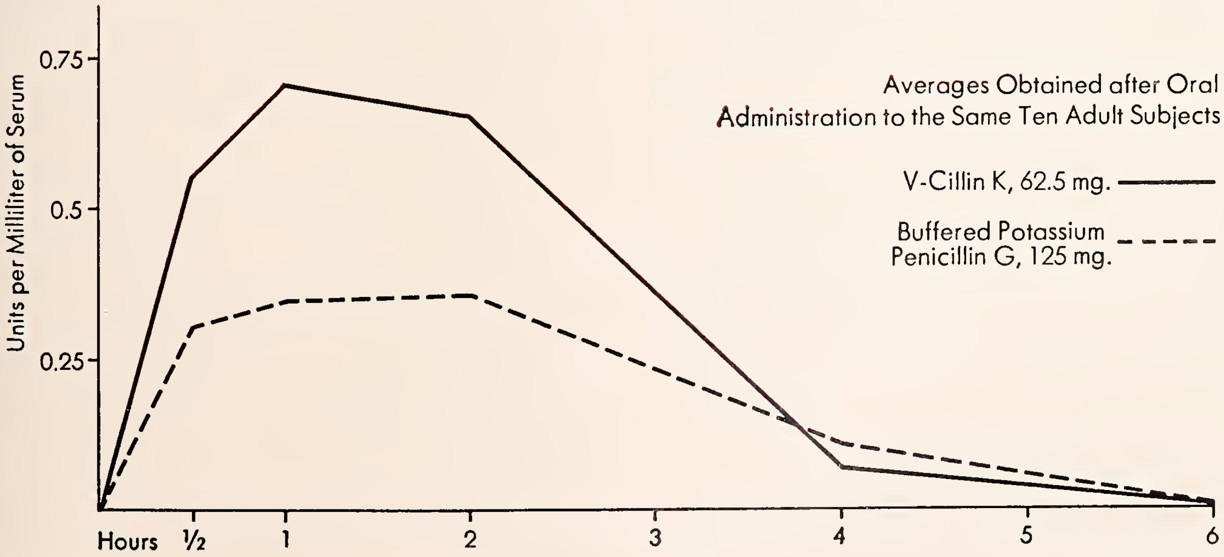
V-Cillin K® provides dependable oral antibacterial activity

because it combines a high degree of in-vitro activity...

Antibiotic	Staph. Aureus (Penicillin-Sensitive) MIC (mcg./ml.) Median	Staph. Aureus (Penicillin-Sensitive) MIC (mcg./ml.) Range	Streptococcus, Group A MIC (mcg./ml.) Median	Streptococcus, Group A MIC (mcg./ml.) Range	Diplococcus Pneumoniae MIC (mcg./ml.) Median	Diplococcus Pneumoniae MIC (mcg./ml.) Range
Penicillin V	0.02	0.02-0.04	0.02	0.003-0.4	0.01	0.005-0.2
Penicillin G	0.02	0.005-1.6	0.005	0.002-0.2	0.02	0.01-0.1
Methicillin	1.6	0.4-6.3	0.2	0.1-0.4	0.2	0.1-1.6
Oxacillin	0.4	0.1-3.1	0.04	0.02-0.4	0.1	0.04-0.8
Cloxacillin	0.2	0.2-0.8	0.1	0.1-0.8	—	—
Nafcillin	0.4	0.2-0.8	0.04	0.02-0.1	0.02	0.02-0.2
Ampicillin	0.2	0.1-0.8	0.02	0.01-0.04	0.02	0.01-0.04

Adapted from Klein, J. O., and Finland, M.: New England J. Med., 269:1019, 1963.

with high blood levels, even in the presence of food



Adapted from Griffith, R. S., and Black, H. R.: Current Ther. Res., 6:253, 1964.

V-Cillin K® Lilly 700887

Potassium Phenoxymethyl Penicillin

(See next page for prescribing information.)

New 500 mg. tablets...a more convenient way to give high doses

Description: V-Cillin K is the potassium salt of V-Cillin® (phenoxymethyl penicillin, Lilly). This chemically improved form combines acid stability with immediate solubility and rapid absorption. Higher serum levels are obtained more rapidly with this penicillin than with equal oral doses of penicillin G. The higher serum levels and acid stability of V-Cillin K make it a more dependable penicillin for oral use.

V-Cillin K, Pediatric, is an oral solution of clinically proved V-Cillin K in teaspoon dosage form. When mixed as directed, each 5 cc. (approximately one teaspoonful) will contain 125 mg. (200,000 units) phenoxymethyl penicillin as the potassium salt.

Indications: V-Cillin K has been shown to be effective in the treatment of streptococcus, pneumococcus, and gonococcus infections as well as infections caused by sensitive strains of staphylococci. It may be used for the prophylaxis of streptococcus infections in patients with a history of rheumatic fever and for the prevention of bacterial endocarditis after tonsillectomy and tooth extraction in those patients with a history of rheumatic fever or congenital heart disease.

Contraindication: V-Cillin K should not be administered to a patient with a history of penicillin hypersensitivity.

Warnings: In rare instances, the use of penicillin may cause acute anaphylaxis which may prove fatal unless promptly controlled. This type of reaction appears more frequently in patients with a history of sensitivity reactions to penicillin and in those with bronchial asthma or other allergies. Resuscitative drugs should be readily available for emergency administration. These include epinephrine and pressor drugs (as well as oxygen for inhalation) for relief of immediate allergic manifestations and antihistamines and corticosteroids for delayed effects.

Precautions: V-Cillin K should be used cautiously, if at all, in a patient with a strongly positive history of allergy.

In prolonged therapy with penicillin, and particularly with hig parenteral dosage schedules, frequent evaluation of the renal an hematopoietic systems is recommended.

In suspected staphylococcus infections, proper laboratory studie (including sensitivity tests) should be performed.

The use of penicillin may be associated with the overgrowth o pencillin-insensitive organisms. In such cases, its administration shoul be discontinued, and appropriate measures should be taken.

Adverse Reactions: Although serious allergic reactions are much les common with administration of oral penicillin than with intramuscula forms, manifestations of penicillin allergy may occur.

Penicillin is a substance of low toxicity, but it does possess a signifi cant index of sensitization. The following hypersensitivity reaction associated with the use of penicillin have been reported: skin rashe ranging from maculopapular eruptions to exfoliative dermatitis; urti caria; and reactions resembling serum sickness, including chills, fever edema, arthralgia, and prostration. Severe and often fatal anaphylaxi has occurred (see Warnings). Hemolytic anemia, leukapenia, throm bocytopenia, and nephropathy are rarely observed side-effects an are usually associated with high parenteral dosage.

Administration and Dosage: For Tablets V-Cillin K and for V-Cillin K Pediatric, the usual dosage ranges from 125 mg. (200,000 units) three times a day to 500 mg. (800,000 units) every four hours. For infants the daily dosage may be 50 mg. per Kg. of body weight divided int three doses.

Beta-hemolytic streptococcus infections without associated bac teremia may be treated with 200,000 to 400,0000 units three times day. Therapy should be continued for a minimum of ten days to preven development of rheumatic fever and/or other serious complications Dosage for routine streptococcus prophylaxis in patients with a histor of rheumatic fever or congenital heart disease may be 200,000 units once or twice daily. When such patients undergo tonsillectomy, tooth extraction, or other minor surgery, the prophylactic dose should be 500,000 units every six hours given two days prior to surgery and fo two days postoperatively. If oral medication is not feasible on the da of surgery, parenteral therapy should be considered. Mild to moder ately severe pneumacoccus pneumonia has been treated effectivel with 250 mg. every six hours.

In staphylococcus infections, 400,000 units or more should be give every six to eight hours in conjunction with indicated surgical proce dures.

For gonorrhea in males, 500 mg. (800,000 units) every four hours fo three doses may be employed; in females, 500 mg. every four hour for six doses are recommended. Refractory infections generally respon to a second treatment three to four days following completion of the first. Treatment of gonarrhea with severe complications should be individualized, with prolonged and intensive treatment. Patients with suspected lesion of syphilis should have a dark-field examination be fore receiving penicillin and monthly serologic tests for a minimum o three months.

How Supplied: Tablets V-Cillin K, U.S.P., 125 mg. (200,000 units), i bottles of 50 and 100; and 250 mg. (400,0000 units) and 500 mg (800,000 units), in bottles of 24 and 100.

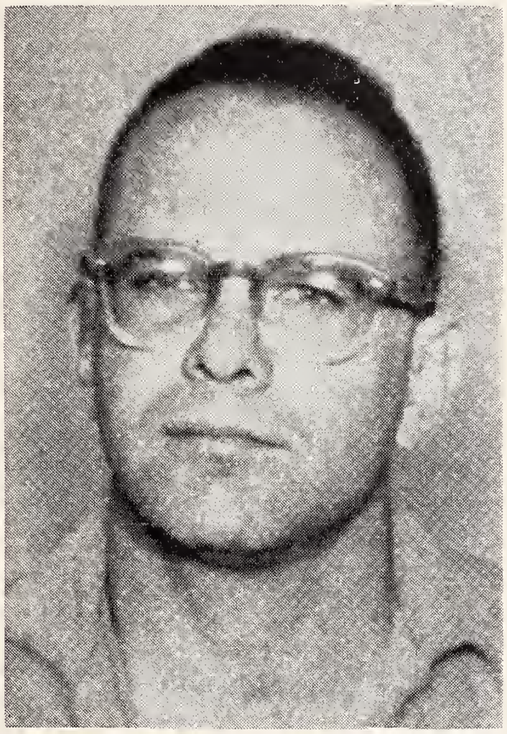
V-Cillin K, Pediatric, for Oral Solution, 125 mg. (200,000 units) pe 5 cc. of solution, in 40, 80, and 150-cc.-size packages. [032067

Additional information available to physicians upon request. Eli Lilly and Company, Indianapolis, Indiana 46206.

Lilly

70086

Wanted By The FBI



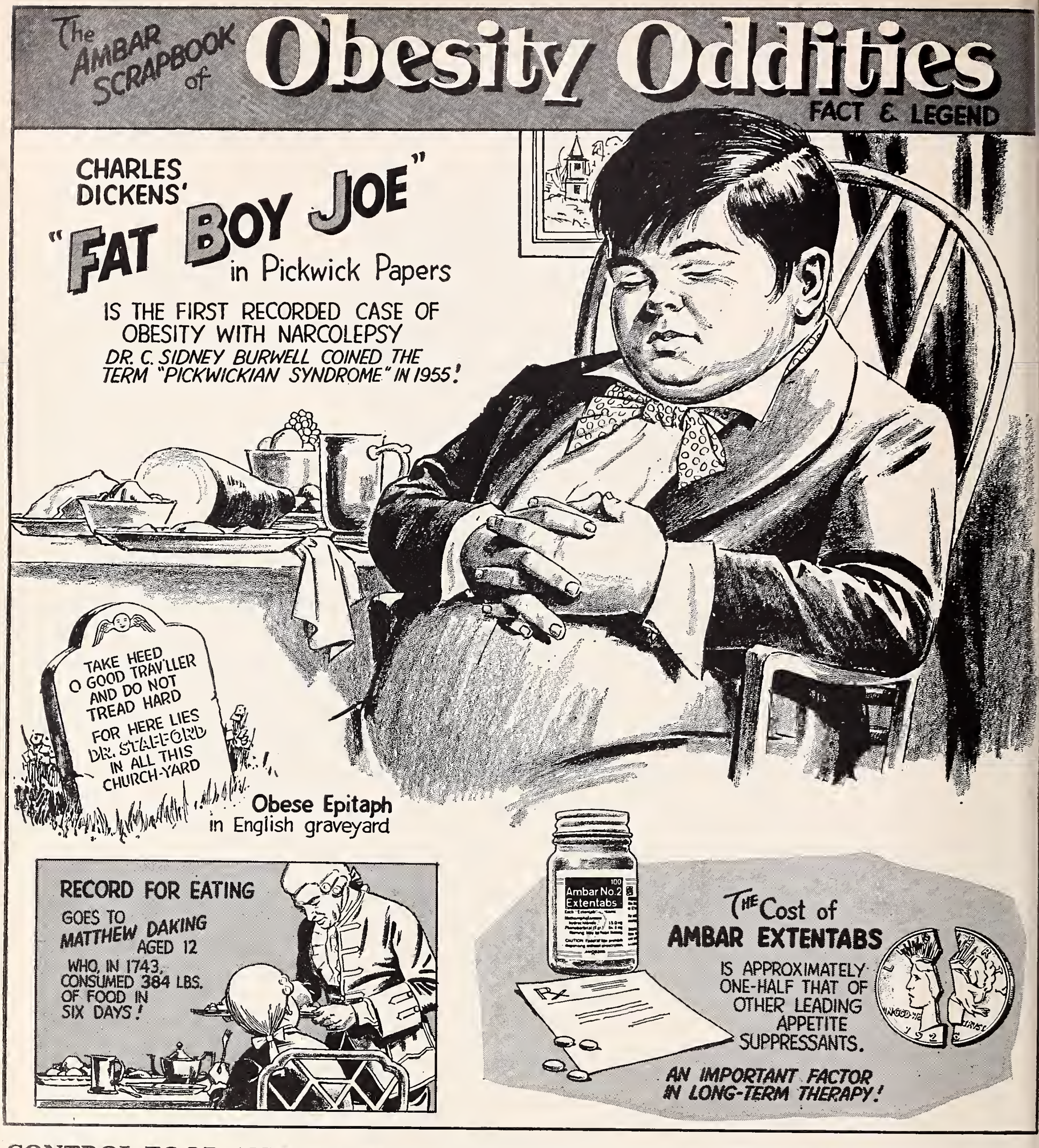
ALSON THOMAS WAHRLICH
Alias Thomas Jefferson Clark III

Wahrlich, one of the FBI's "Ten Most Wanted Fugitives," is wanted for unlawful interstate flight to avoid prosecution for the crime of kidnapping. He allegedly abducted a 6-year-old Arizona girl in Tucson, Arizona, on April 16, 1964, and brutally beat, choked, and sexually molested her before leaving her abandoned in the same city. A Federal warrant was issued at Tucson on April 28, 1964, charging Wahrlich with unlawful interstate flight to avoid prosecution for this offense.

A white American, Wahrlich was born in Rensselaer County, New York, on February 4, 1936. He is 5' 2" *tall,* weighs 135 to 140 pounds, wears thick lens glasses, being almost blind without them, has blue eyes, brown hair, a medium build and a medium complexion. He has a scar on each side of his abdomen, and a crude homemade tattoo of a heart and the name "Cindy" on his upper outer left arm.

Wahrlich has used the additional aliases of Alson I. Wahrlich, Tommy Clark, Tommy Wahrlich, and Worlich Olson. He has resided in the past in mobile trailer homes and has worked as a truck driver, ranch worker, dishwasher, house trailer repairman, **hospital orderly,** insurance salesman, cook, clerical employee, and ice cream truck vendor. He is very interested in guns, fishing, rocks, abandoned mines, camping, hiking, and has previously possessed a flying license. He often hitchhikes, but strongly prefers traveling by personally owned car. Wahrlich reportedly has mental blackouts, has been previously imprisoned for aggravated assault, child molesting, and a crime against nature. He allegedly molests children between ages 5 to 10 years. He reportedly is armed with a pistol and is said to carry a surgical scalpel in his trousers' pocket. Consider him armed and extremely dangerous.

Should you receive any information concerning the whereabouts of Alson Thomas Wahrlich, you are requested to immediately notify the nearest office of the FBI, the telephone number of which may be located on the first page of local telephone directories.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FACT & LEGEND
CHARLES DICKENS' "FAT BOY JOE" in Pickwick Papers
IS THE FIRST RECORDED CASE OF OBESITY WITH NARCOLEPSY
DR. C. SIDNEY BURWELL COINED THE TERM "PICKWICKIAN SYNDROME" IN 1955!
TAKE HEED O GOOD TRAV'LLER AND DO NOT TREAD HARD FOR HERE LIES DR. STAFFORD IN ALL THIS CHURCH-YARD
Obese Epitaph in English graveyard
RECORD FOR EATING GOES TO MATTHEW DAKING AGED 12 WHO, IN 1743, CONSUMED 384 LBS. OF FOOD IN SIX DAYS!
100 Ambar No. 2 Extentabs
THE Cost of AMBAR EXTENTABS IS APPROXIMATELY ONE-HALF THAT OF OTHER LEADING APPETITE SUPPRESSANTS.
AN IMPORTANT FACTOR IN LONG-TERM THERAPY!

CONTROL FOOD AND MOOD ALL DAY LONG WITH A SINGLE MORNING DOSE

AMBAR #2 EXTENTABS®

methamphetamine HCl 15 mg., phenobarbital 64.8 mg. (1 gr.) (Warning: may be habit forming).

One Ambar Extentab before breakfast can help control most patients' appetite for up to 12 hours. Methamphetamine, the appetite suppressant, gently elevates mood and helps overcome dieting frustrations. Phenobarbital, the sedative in Ambar, controls irritability and anxiety...helps maintain a state of mental calm and equanimity. Both work together to ease the tensions that erode the willpower during periods of dieting.

Also available: Ambar #1 Extentabs®—methamphetamine hydrochloride 10 mg., phenobarbital 64.8 mg. (1 gr.) (Warning: may be habit forming).

BRIEF SUMMARY/**Indications:** Ambar suppresses appetite and helps offset emotional reactions to dieting. **Contraindications:** Hypersensitivity to barbiturates or sympathomimetics; patients with advanced renal or hepatic disease. **Precautions:** Administer with caution in the presence of cardiovascular disease or hypertension. **Side Effects:** Nervousness or excitement occasionally noted, but usually infrequent at recommended dosages. Slight drowsiness has been reported rarely. See package insert for further details.

A. H. ROBINS COMPANY,
RICHMOND, VA. 23220
A-H-ROBINS

Medicare Part A: A Progress Report

John C. Foster, Executive Director
Arizona Blue Cross/Blue Shield

Eleven months of Medicare, Part A, administration have given Arizona Blue Cross an opportunity to review and evaluate the efficiency of its operation.

In that eleven months the Plan has had an opportunity to establish a program of education, administration, and coordination.

EDUCATION

Because Blue Cross and Blue Shield have always maintained a strong educational program for physicians' office assistants and hospital personnel, it was a simple step to expand the service in preparation for Medicare.

To start the program, the Executive Director visited every hospital in the State to acquaint administrators with the new program and the role of Blue Cross.

Subsequently, nine meetings were held in three state locations to duplicate training for all hospital office personnel. As explanations were offered on Part A, we found an increasing interest by physicians' office personnel who requested that our staff outline both Part A and Part B. This was done for medical assistants in three locations, three times in a large clinic and in various smaller groups. As our lectures became better known, we found it necessary to provide speakers for groups of senior citizens, church groups and the like.

At the same time, we started educational programs for the newly formed but flourishing Home Health Agencies, all of which are served by Blue Cross.

After the education programs for hospitals and home health agencies had developed into a routine process, Blue Cross was selected by thirty-five of the thirty-seven approved extended care facilities to be intermediary. With this a new educational effort was begun with each facility having three program sessions available.

The educational programs have "paid off" by preparing admitting, billing and insurance clerks for a smooth functioning program.

ADMINISTRATIVE

Medicare Part A caused a minor ripple in the Blue Cross and Blue Shield office when its administration started July 1, 1966. The communications system, claims handling and data processing were all patterned after programs already in operation, such as the Federal Employees Program and regular Blue Cross.

Only 13 persons were added to the staff of Blue Cross to handle some 65,438 claims and $18,740,090.62 in ten months. To date, the overhead costs have remained below 2%, this without provider audits. Audits to come will obviously increase that figure. Current payments to providers indicate a level in excess of two million dollars per month.

Applicants to be intermediaries or carriers (Parts A and B) were required by Social Security to have data processing potential. It has been our experience that our data processing department has made our economical administration of the program possible.

COORDINATION

Coordination of the Medicare program with the Social Security Administration, the Part B carrier, and the Blue Cross and Blue Shield national organizations is an important and delicate part of the administrative and educational structure. Coordination with these outside agencies, as well as other departments within our own office, is maintained by a trained Medicare coordinator who serves as an advisor to the Executive Director.

His is the job of problem solving, reviewing instructional materials, liaison with providers, liaison with Social Security Administration, Blue Cross Association, National Association of Blue Shield Plans and the Hospital Association.

Problems have existed in the program. The Social Security program for out-patient care was intricate and claims processing slow and expensive. This has been speeded up but can stand improvement. In the early days of the program, the communications system did not function as well as it might, but most problems in that area have been eradicated.

All in all, we have found that well-trained staff and well-oriented providers make for a smoothly oiled program.

Medicare Part B: A Progress Report

James J. Blazek, Administrator
Medicare Claims Administration
Aetna Life & Casualty Companies

An Aetna Life & Casualty spokesman has summarized this company's position on Medicare when he stated: "We come to you not as lovers of federal intrusion into the private affairs of men, but as guardians of private enterprise where it still exists, and restorers where it has been abolished. Recognizing the need for a certain federal participation in the process of the common good, but not necessarily the wisdom of federal implementation, we seek more cooperative efforts with the medical profession to preserve those good things inherent in the operation of the federal establishment."

Amidst a profusion of predictions and speculation, Aetna Life & Casualty, Medicare Claim Administration, began to operate the complex machinery of the Medicare, Part B, program. On July 8, 1966, a 77-year-old man received $30.80, the first payment issued by our office in Arizona. While the administration of Medicare in its first nine months has faced various problems, most of these have now been solved.

Between October 1966 and January 1967, a substantial "backlog" developed in the office. This was primarily caused by (1) the underestimation of anticipated claim volume predicted by the Social Security Administration and (2) the complexity of the claim processing procedure which is required by the program's provisions.

The miscalculated claim projection created severe personnel shortages and resulted in payment delays. In order to initiate a prompt remedy, we instituted an overtime schedule. In addition, experienced processors from Aetna offices in other sections of the country were called in while we trained new permanent employees. Collegiate night crews were also utilized. As the permanent staff reached a size where it could handle the normal workload, the temporary personnel were reduced and ultimately discontinued. At present, we have 92 employees, and they are paying the large majority of claims within two weeks. The "backlog" has been eliminated.

The majority of the processors had no medical or insurance background. Training programs and educational materials were devised to assist the employees in understanding medical terminology in order to accurately evaluate medical claims. The generous cooperation on the part of the medical profession in Arizona has greatly facilitated this task.

The Medicare law sets forth stringent criteria for the payment of claims. The guideline of "reasonable charge" necessitates complex evaluation on the part of the claim processor. Reasonable charge is divided into two components: "customary" and "prevailing."

The customary fee is the amount charged by the physician to all his patients. The physician may increase his customary charge at any time and still satisfy program requirements as long as the charge is increased for all his patients and not just those under Medicare. In order for us to accept the increased charge, it must also fall within the prevailing range.

The prevailing fee is determined by studying a composite of the customary fees for each procedure in an area. The prevailing fee should encompass the large majority of all the customary fees in the locality. We determine this guideline by identifying the point at which most customary charges congregate. Medical fees are continually reviewed to recognize significant fluxations that would change reasonable charge levels.

Prior to July 1, 1966, a study was made of all the available medical bills in our Arizona commercial claim files. We assembled data on the customary charges of physicians for various procedures. Prevailing fee data was developed from these statistics. As the program has evolved, this information has been updated and increased. Other supplemental guides are being utilized to complement our study while we are developing additional information.

The advent of Medicare created a need for vast public education. The Social Security district offices throughout the state have the basic responsibility for providing telephone and personal instruction on completion of claim forms, coverage and other general information. They have asked that all such requests for assistance be referred to them.

Our Medicare Claim Administration office helps beneficiaries with questions arising after a claim has been submitted. We explain payments, denials, and other subjects pertinent to the claim which has been filed.

Meetings have been held throughout the state with physicians and their staffs to discuss the Medicare program. We wish to acquaint physicians, hospital staff members, medical assistants, and secretaries with program mechanics for the mutual benefit of the physicians, the people of Arizona and Aetna Life & Casualty. We are most willing to conduct additional meetings whenever any group connected with the medical profession voices an interest in discussing the program. We publish "What's New?" to advise physicians of revisions in the program. We also assist physicians and their staffs with on-the-spot questions which can be answered over the telephone. As Medicare continues, the medical profession, the beneficiaries, and our staff will become increasingly familiar with program requirements. Public and professional awareness will enable us to process claims without returning large quantities of unacceptable materials. This will eliminate a great inconvenience for all parties involved in the program.

Between July and December 1966, it was necessary to return 21,000 bills because of incomplete information, lack of coverage, etc. With increased public education and greater cooperation, we will be able to sharply reduce the number of claims we send back. The time presently devoted to returning bills could be utilized to process acceptable material.

During the first six months of the program, we issued 15,000 settlement drafts covering an additional 30,000 bills. We also processed 5,000 bills where no payment could be made because the deductible had not been satisfied.

In January, February and March 1967, we paid $2,400,000.00 in benefits compared to $1,400,000.00 during the first six months of operation. We have processed 71,000 bills and issued 33,000 settlement drafts in the first three months of this year. The average amount per draft is $75.00.

There are approximately 111,000 residents eligible for Medicare, Part B, in Arizona. The desirable climate brings an unestimated number of winter visitors to this state each year. Many receive medical services during their stay and file claims through our office. The seasonal influx creates a unique situation, making it difficult to forecast the number of claims to be processed. We presently receive an average of 6,000 bills per week of which approximately 50 per cent are assigned and 50 per cent are receipted.

Aetna Life & Casualty continually meets in Baltimore with the Social Security Administration to attempt to simplify procedures involved with filing and processing claims. Daniel W. Pettengill, Aetna Vice President, is the chairman of the Health Insurance Benefits Advisory Council. This group is instrumental in proposing new methods of claim administration to streamline the program.

Our office advises physicians of changes which facilitate the work involved in completing claim forms. For example, a recent revision by SSA enables the physician to reduce his paper work by following a new assignment method. The "blanket assignment" provision permits the physician to obtain a statement from his patient authorizing him to take an assignment for any medical service provided in the current calendar year. The statement should be submitted with the first fully-completed Medicare claim form. After that, the physician may submit subsequent claims, completing Part One of the Request for

Payment form himself. The patient does not even need to sign it. The physician may accept or reject an assignment of any particular bill as he wishes or the patient may pay any bill rather than assign it. The blanket assignment can be cancelled at any time.

Our Office also suggests a sample bill which demonstrates the complete information required to process a claim. For example, a typical bill might look like this:

	Patient: J. Jones
Oct. 10-12	
office visits (3 @ $5.00) or	$15.00
Oct. 23-31	
hospital visits (9 @ $5.00) or	$45.00
Total	$60.00

In addition to reflecting the above information, the bill must be officially receipted or the physician may indicate he wishes to accept an assignment. The remainder of the required information, i.e., the patient's address, claim number, diagnosis, etc., appears on the Request for Payment form and can be completed by the patient.

Aetna Life & Casualty has endeavored to administer Medicare in the best interests of the physicians and the people of Arizona. Great effort has been made to avoid any interference in the physician-patient relationship. We are pleased with our current progress and we are continually exploring new methods of operation for future improvement.

In April 1967, the Department of Health, Education and Welfare stated in a letter to Aetna Life & Casualty President, John Hill, that ". . . your number of weeks work on hand (1.5 weeks) was among the lowest in the country, and that the percentage of claims pending over 30 days was only 17.8 per cent as compared to the national average of 24.5 per cent. . . . We are gratified by the achievement of your Medicare operations as reflected by these two important indexes. Sincerely, Arthur E. Hess, (Director, Bureau of Health Insurance)."

Aetna Life & Casualty is dedicated to making Medicare, Part B, a success in Arizona. We will continue to strive for the mutual approval of all those involved in this program. We invite comments from any interested party in order to further our efforts toward future progress.

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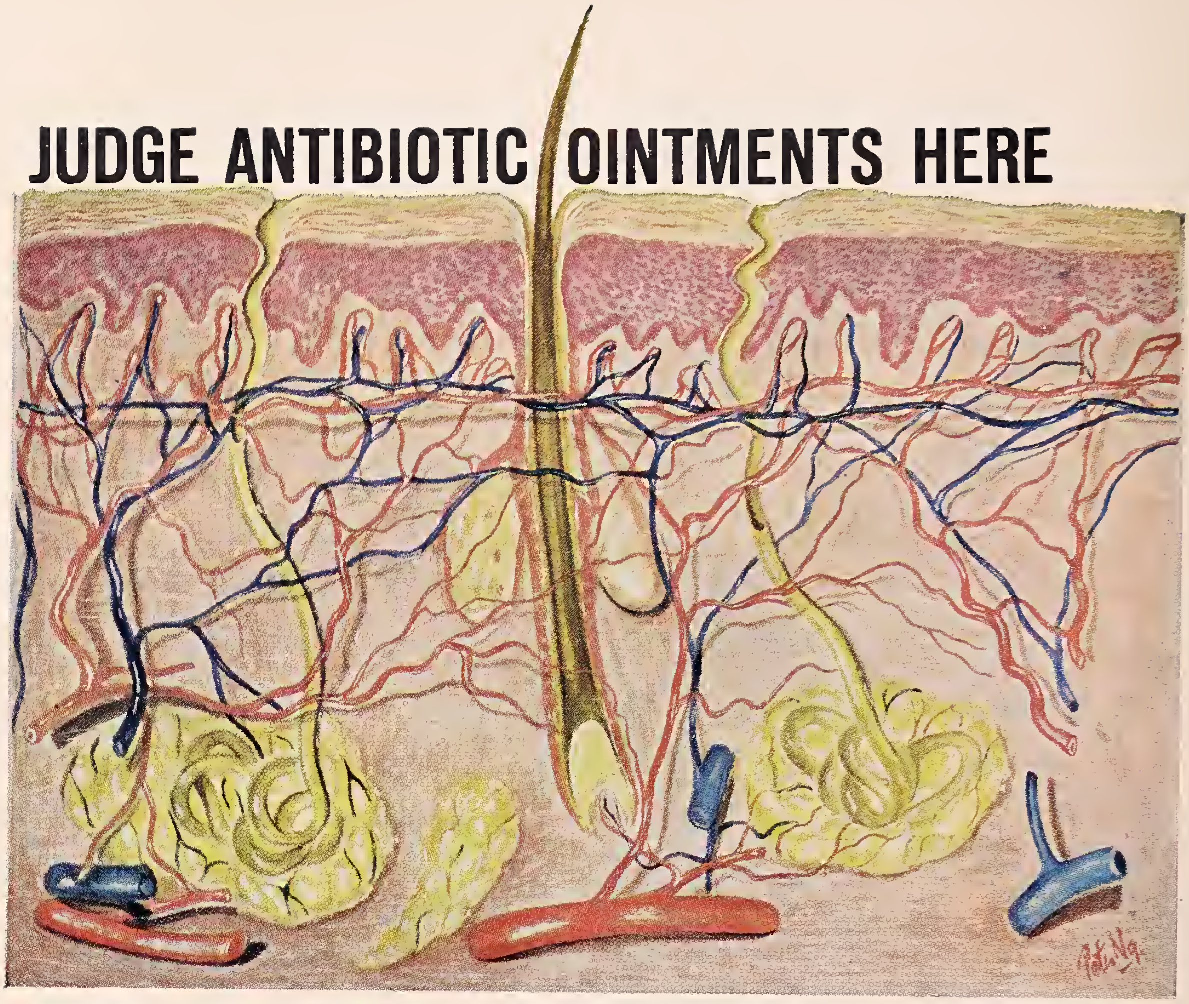

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THE NEW ARMADA AGENCY

Charles Fisher, C.L.U., who has been servicing our Group Life Insurance Program for nearly three years, was appointed "Broker of Record" with authorization to study plans in effect in other parts of the country. This was done and the better features of these plans selected. Leading carriers for each feature were then contacted and negotiated with for the best results. Banks with the necessary facilities and interest were interviewed in research of an acceptable and qualified trustee.

The resulting plan, which is to be known as the ARMADA PLAN, was submitted for approval. It is designed to provide for a broad scope in investments and a maximum of flexibility. Balance is provided through the availability of Annuities and Securities.

There are three parts to the program: (1) Investment, (2) Life Insurance, and (3) Disability Income.

In the investment portion you may select all Annuities, all Securities, or all Mutual Funds. You may also split your investment in any ratio between Securities and Annuities, or between Mutual Funds and Annuities. An important feature is that the maximum allowable will remain to your credit in the investment portion. The Life Insurance and the Disability Income are options and are available outside of the savings program.

The Trust Division of The Guaranty Bank has been selected as Trustee. They were chosen to provide this all-important service to our Association not only because they were the leader in the State in preparing for the HR-10 program, but they also presented a fee schedule for trust and investment service more attractive than any reviewed.

Southwestern Life Insurance Company, long a leader in the Annuity field was selected to provide the Annuity. Their most attractive product to complement a securities fund is a non-participating group pension plan. Southwestern also made available the most desirable Disability Income benefit at the most competitive rate.

Provident Life and Accident offered the lowest cost Decreasing Term Policy to round out the insurance portion of the over-all program.

The newly incorporated Armada Assurance Agency will be the Administrator of the insurance portions of the program. This agency was organized by Mr. Fisher to create a corporate entity to assure continuity of service for the ARMADA PLAN. Representatives of the agency will be carefully selected, highly qualified individuals.

BURN UNIT
MARICOPA COUNTY GENERAL HOSPITAL

With the results being obtained by Dr. W. R. Price, Co-Director of the Research Burn Unit at Maricopa County General Hospital, Arizona Medicine felt that it would be of interest to all the physicians in the State if the Transfer and Admission policy to the Burn Unit would be reproduced. This policy is reproduced below for your information and use.

Editor

Admission Policy

The indigent of Maricopa County have first priority, but any person with a major burn may be admitted *if* bed space is available.

Arrangement for Transfer and Admission.

Call Burn Unit Office, 272-6611 Ext. 340. The Burn Unit secretary will help make all arrangements,

or

Call Doctor MacDonald Wood or Doctor William Price, 272-6611. If not in the hospital, the telephone operator will locate the above doctors and your call will be returned.

Time of Transfer.

As soon as is possible (preferably within the first few hours).

Preparation for Transfers

1) Respiratory Care.
   Treat to provide adequate respiratory function. Intubation is preferable to tracheostomy.

2) Shock Therapy
   a) Start intravenous fluids via a "cutdown" placed in a large vein. Cutting through the burn wound is not desirable but may be done if necessary.
   b) Do *not* give *PLASMA!* Intravenous fluid should be Ringer's Lactate solution! Rate of admission should provide a urinary output of 10-40 ml/hr in the adult and 5-20 ml/hr in the very young. This rate of fluid admission should be decreased if the venous pressure goes above 15 cm.
   c) Insert a Foley catheter into urinary bladder, and measure and record output.
   d) Insert a large nasogastric tube, empty stomach, leave tube in place and apply suction intermittently.

3) Wound Care and Medications
   a) The patient should have nothing by mouth to eat or drink.
   b) Pain medication (morphine sulfate or demerol) should be given *intravenously* in small doses.
   c) Wound debridement is *not* necessary. Remove all clothing and cover burned areas with sterile sheets, and apply blankets as necessary to keep the patient warm. Please do *not* apply medication or ointment to burn wound surface. Send burned clothing with the patient.

4) Record and Family
   a) Send a copy of all records, laboratory test, treatment given, information as to how the injury occurred and the referring doctor's name, address, and telephone number. Include any operative permits which may have been obtained.
   b) A family relative should accompany the patient in order to give pertinent information concerning the accident and the patient's medical history, and to sign treatment permits.

Transfer Vehicles

Any means in which patient care can be maintained. During transfer the patient must be kept warm and O_2 should be given by nasal catheter. Trained medical personnel should be with the patient at all times.

Transfer End Point.

Bring the burned person directly to the Maricopa County General Hospital Emergency Room.

ENEMA NIPPLE VALVE

Inability to hold an enema presents a clinical problem solved by use of the enema nipple valve. Physicians and nurses are often confronted with the patient reportedly unable to take or retain an enema. With Medicare and increased numbers of senior citizens, the problem becomes more prevalent. Enema administration is a basic necessity in many diagnostic and therapeutic areas.

Conversion of an ordinary infant care rubber nipple* into a valve simplifies the enema administration. A V-shaped incision with scissors into the nipple tip permits passage of a medium sized French catheter through the nipple tip. After insertion of the catheter-nipple tip into the anus, manual pressure holding the flange of the nipple firmly against the anoderm then prevents enema reflux. Thus enema retention is better accomplished, regardless of the cause of weak sphincter control.

The rubber nipples are disposable, readily available and inexpensive (three for thirty-four cents retail).

In addition to therapeutic use, other applications consist of improved colostomy irrigation and more effective preparation for sigmoidoscopy in the incontinent patient.

Adaptation of the simple rubber nipple creates an effective seal-tight valve for clinical use.

Edward J. Lowell, Jr., M.D.

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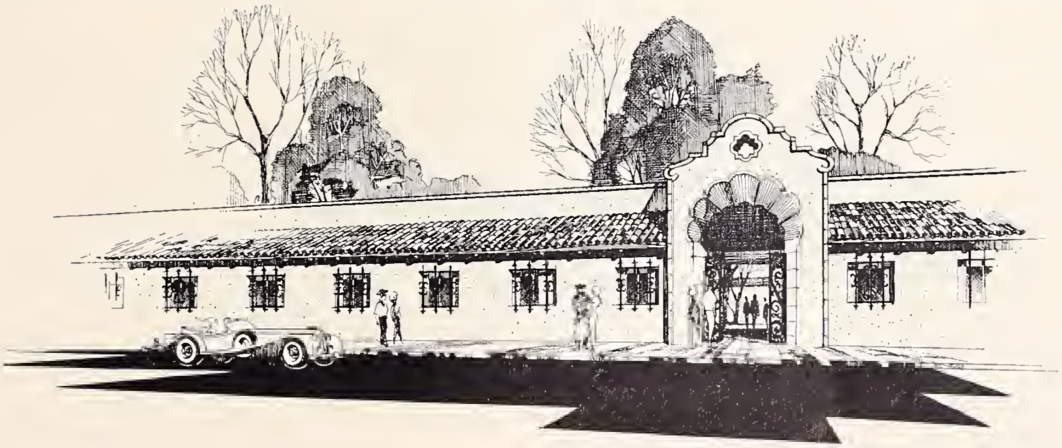

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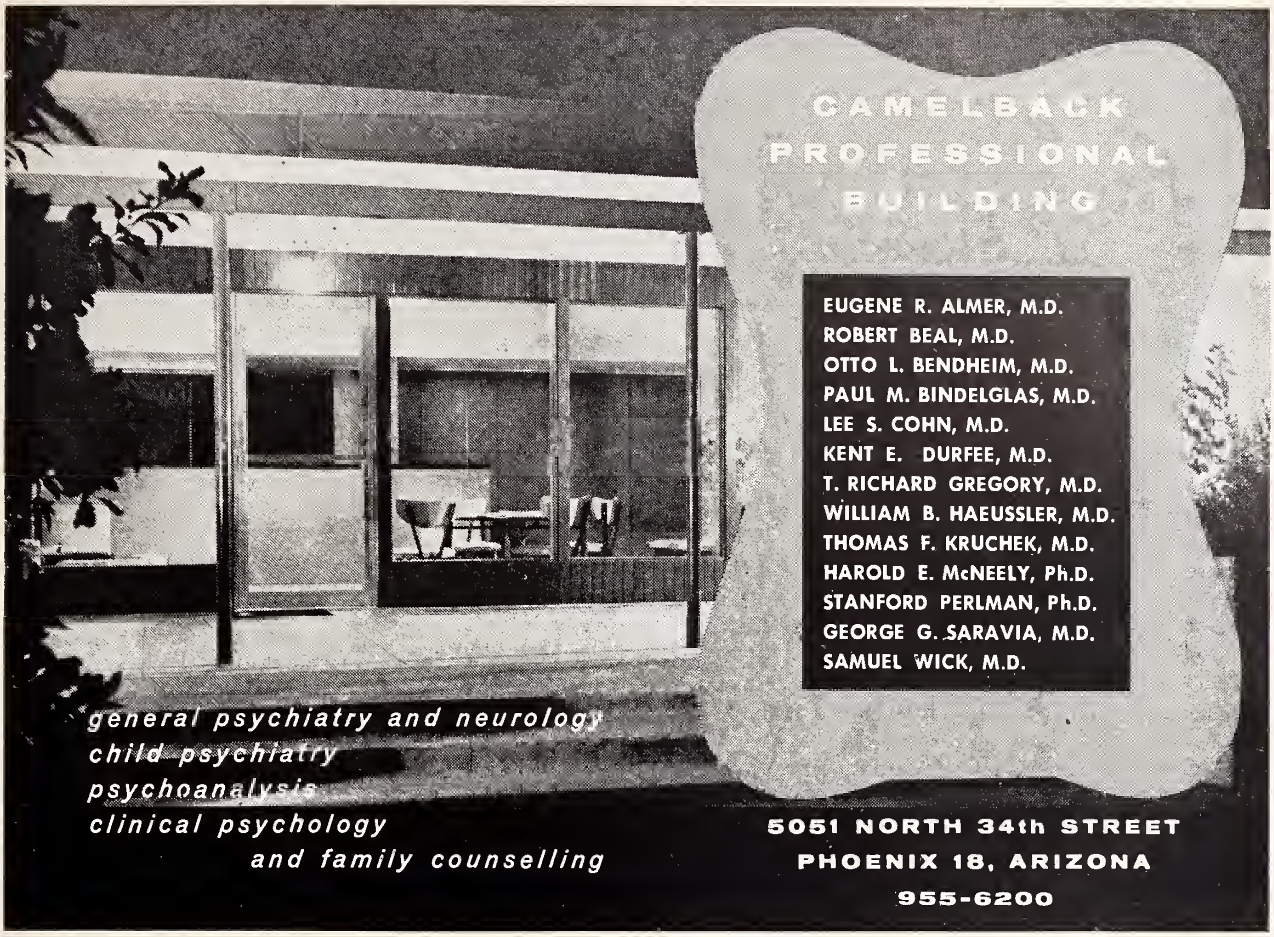

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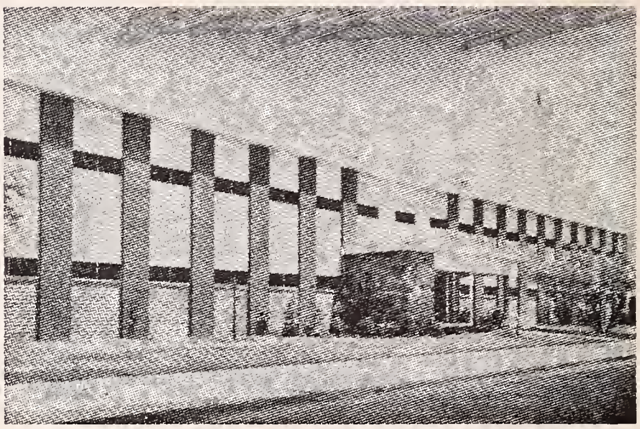

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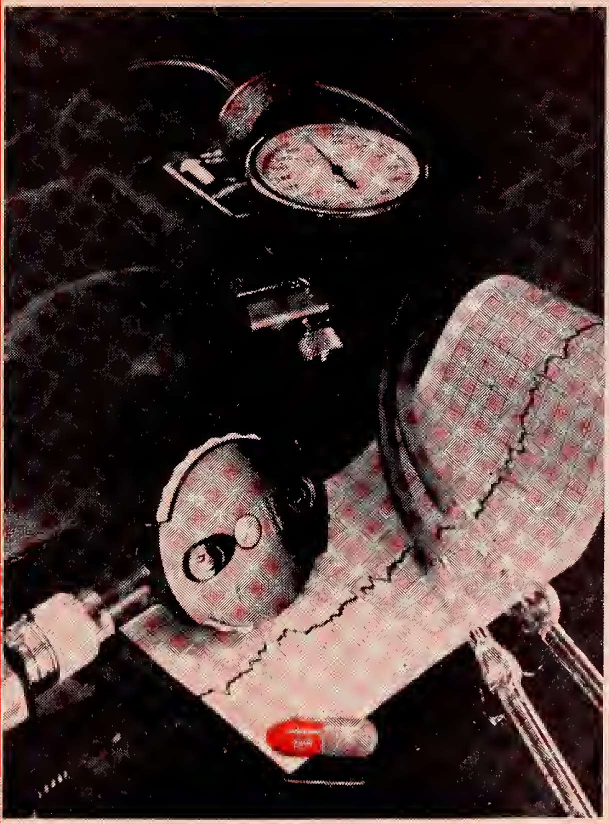
Preston J. Taylor, M.D.

DELAYED RUPTURE OF THE SPLEEN 700
Robert V. Diserens, M.D.

WHY RADIOISOTOPE SCANNING? 703
S. V. Hilts, M.D.



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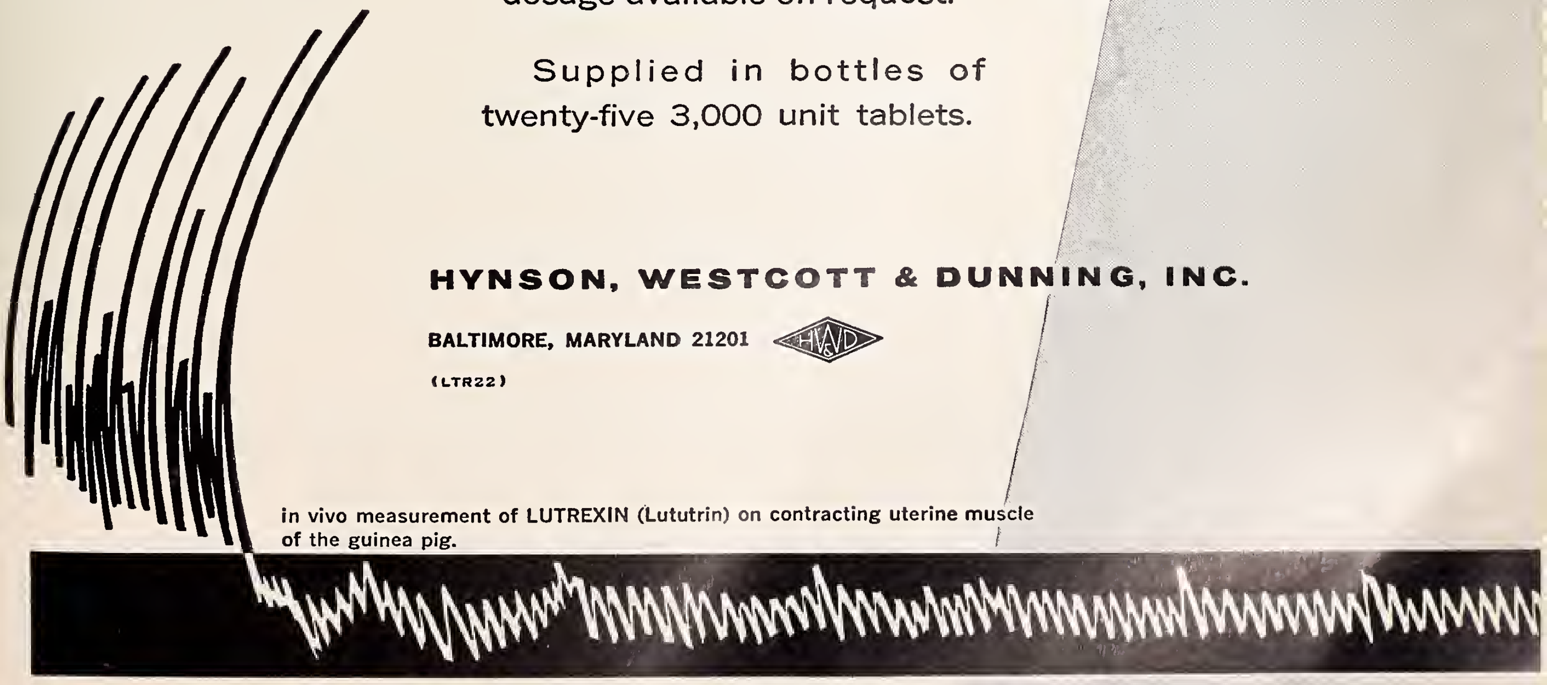

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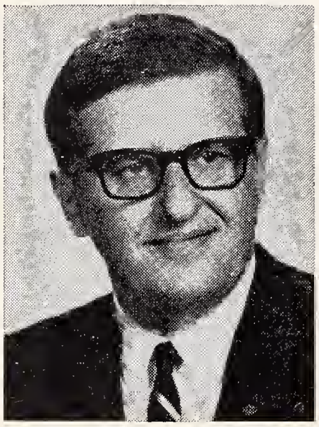

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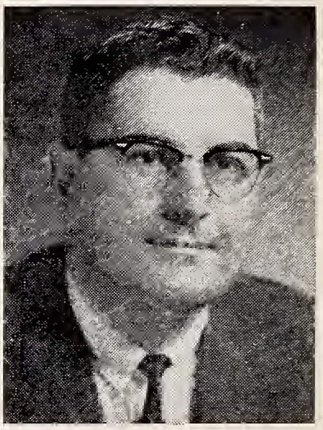

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Arizona Medicine
JOURNAL OF ARIZONA MEDICAL ASSOCIATION
MEDICAL SOCIETY OF THE UNITED STATES AND MEXICO

AUGUST, 1967
Vol. 24, No. 8

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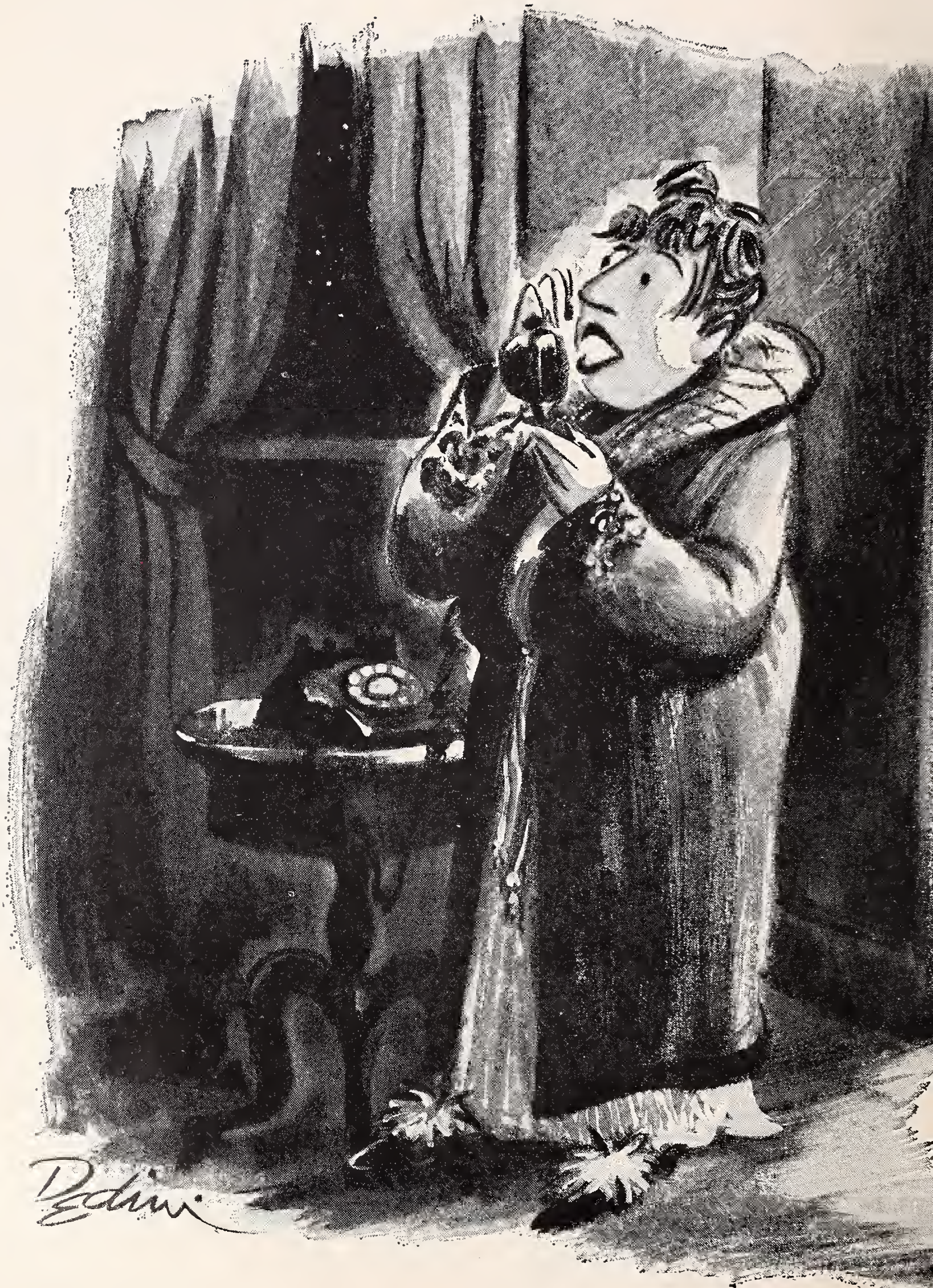

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ARMPAC

On the inside covers of both the front and back pages of a program celebrating the Fourth Anniversary of The Arizona Medical Political Action Committee appeared the following quotations:

"ARMPAC . . . is an organization dedicated to a program of political education which encourages physicians and their wives to support men of integrity in both political parties who work diligently in the cause of good government," and "THE PRICE OF FREEDOM IS ETERNAL VIGILANCE."

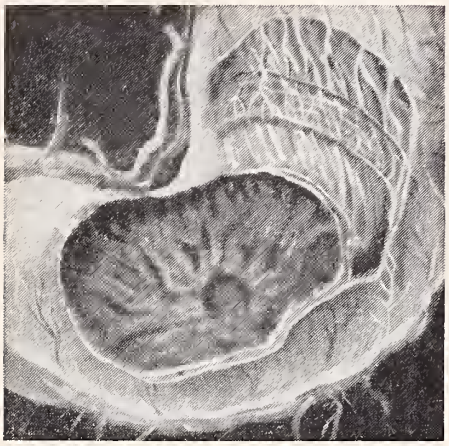
The first quotation we feel to be worthy of the State of Arizona, the residents of Arizona, and especially the physicians of Arizona, for it freely admits the existence not only of a program of political education but also the presence of individuals in both major political parties who would work in the cause of good government. Two choices exist — the exposure of professional individuals to political figures, and the individual choice between major political parties — two choices without which a political action committee would be little more than a psychological club, and an organization of which we could be less than proud.

The second statement speaks for itself. Recorded history is filled with incidents in which both vigilance and the opportunity to be vigilant were lost along with personal individual freedom.

We have an opportunity to equalize both our professional and political interests in this off-election year. ARMPAC needs OUR support.

Roland F. Schoen, M.D.
Editor

In peptic ulcer... antacid therapy with a new benefit



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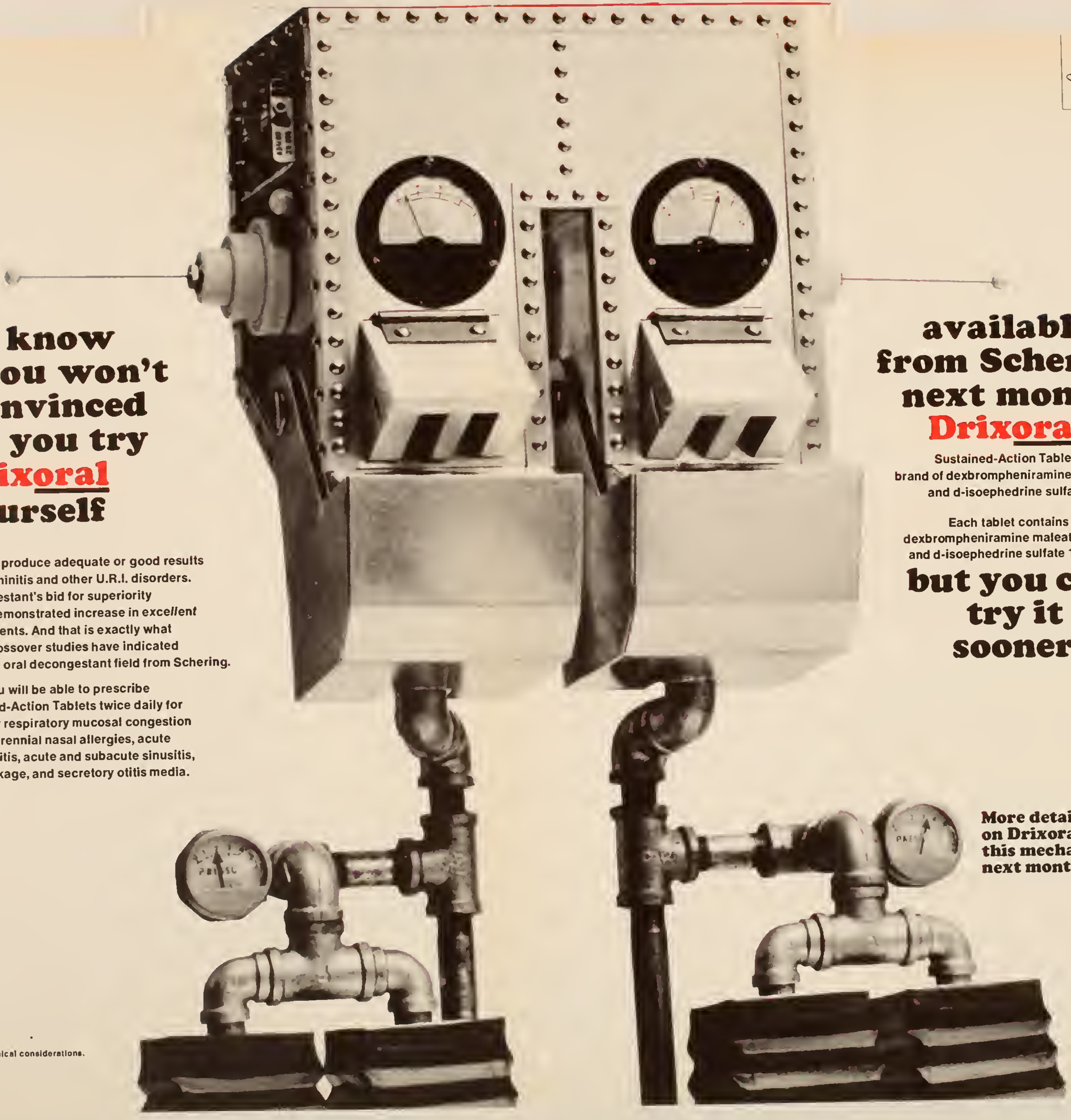

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References:
1. Pullen, F. W. 2nd, and Montgomery, W. W.: Arch. Otolaryng. 77:24, 1963.
2. Frank, D. I.: Curr. Therap. Res. 6:158, 1964.
3. Fierberg, A. A.: Ann. Allergy 22:324, 1964.

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Meeting of the Professional Committee of The Arizona Medical Association, Inc., held Sunday, June 11, 1967, in the Convention Center of the Safari Hotel, 4611 North Scottsdale Road, Scottsdale, Arizona, convened at 10:15 a.m., William G. Payne, M.D., Chairman, Presiding.

ROLL CALL

PRESENT: Drs. Antos, Robert J.; Baker, Earl J.; Dudley, Jr., Arthur V., President-Elect; Dysterheft, Arnold H., President; Ganelin, Robert S.; Heileman, John P., Secretary; Kohl, Jr., Harold W.; May, Derald G.; McDaniel, W. Shaw; Melick, Dermont; Payne, William G., Chairman; Schaller, Donald F. Staff — Messrs. Carpenter, Robert, Executive Secretary; Robinson, Bruce E., Assistant Executive Secretary. **Guests** — Dr. Spendlove, George A., Commissioner, Arizona State Department of Health.

EXCUSED: Drs. Dexter, Richard L.; Fife, Ray; Helme, William B.; Landeen, Fred H.; Steen, William B.; Wagner, Albert G.; Wood, MacDonald.

MINUTE

Minute of the Professional Committee meeting held January 8, 1967, approved.

BOARD OF DIRECTORS — ACTIONS

The Board of Directors of this Association, in meeting held January 29, 1967, received the report of the Professional Committee and, following due deliberation, acted on each subject as follows:

1. Approved reactivation of the Subcommittee on Poison Control.
2. Reiterated its stand that the Arizona Medical Association would welcome discussion with the Osteopathic physicians of Arizona for the amalgamation of both professions into one healing art based upon the accepted tenets of scientific medicine.
3. Accepted the report of the Professional Committee relating to the Diabetes Detection Drive, that the deficit of $1,246.28 be supplied out of the Professional Committee's budget; that, if this amount of money is not available out of said budget, that the recommendation of the Professional Committee to the Board that the deficit be provided by the Association was approved; and, in accepting the report of the Professional Committee, it was determined to approve procedure with preliminary planning for a second Diabetes Detection Drive to culminate during the next National Diabetes Week (1967), with the understanding that every effort will be exerted to make such project financially self-sustaining.
4. Appropriated the sum of $1,000 for the proposed statewide adult immunization program to include smallpox, diphtheria, tetanus and measles, supporting this program.
5. Approved the "Mental Retardation Program for Training Health Personnel in Rural Arizona Communities" through the Rehabilitation Center of the University of Arizona, utilizing Federal funds available, recommending component county medical society cooperation when requested.
6. Accepted with regret the resignation of Ben P. Frissell, M.D., (Phoenix) who served as Chairman of the Subcommittee on Public Health.

REPORT RECEIVED.

SUBCOMMITTEE REPORTS

Aging and General Medicine

Approved recommendation of Harold W. Kohl, Jr., M.D., Chairman, Subcommittee membership composite, including: John B. Alsever, M.D. (Scottsdale), Section on Blood and Blood Banking; James J. Blute, Jr., M.D. (Tucson), Section on Rheumatic Fever and Heart Disease; Karl E. Voldeng, M.D. (Phoenix), Section on Alcoholism; John P. Heileman, M.D. (Phoenix), Section on Cancer; John P. Holbrook, M.D. (Tucson), Section on Arthritis; Fred H. Landeen, M.D. (Tucson), Section on Aging; Marguerite S. Williams, M.D. (Sedona), Section on Diabetes; and George A. Spendlove, M.D., Commissioner, Arizona State Department of Health. A vacancy exists in the Section on Nursing Homes, as Dr. Kohl requested that Clarence L. Robbins, M.D., not be reappointed to head this section. This vacancy will be filled at a later date.

DIET MANUAL

Dr. Kohl reported review in depth of a proposed Diet Manual prepared by the Arizona State Department of Health commending its extremely adequate approach to the problem. It is now in final form, and Dr. Spendlove reported it is at press and will be available for distribution shortly. The information contained therein will be especially helpful within the smaller hospital institutions of this State where qualified dietitians are not available and/or employed. It was agreed that wide distribution should be made of the completed product, particularly to the smaller hospitals and nursing homes, and especially should the medical profession be made aware of their availability at these institutions. REPORT RECEIVED AND DR. SPENDLOVE COMMENDED FOR THIS PUBLICATION.

PLASMAPHERESIS OPERATION

Dr. Kohl reported that he had, as requested, investigated this operation carried on at the Arizona State Prison. Dr. William J. Clemans and Dr. Robert L. Hyde, Prison Physicians, reported approximately seven months experience in the techniques of plasmapheresis processing approximately one hundred and forty men four days a week. During this period of time at the Arizona State Prison, there has been experienced no grave medical emergencies to injuries to health or welfare of the donor population. They do have the advantage of a "closed population" which is kept under close medical supervision. The Arizona State Prison has been for years the sole support of whole blood used at the Pinal County General Hospital. It continues to supply all the blood that is necessary for the hospital, and, in fact, more blood is now available because the donor population is not being depleted of whole blood as it was prior to the use of plasmapheresis. Invitation to review the operation at the Prison was extended.

Apparently, there have been no problems reported associate with the plasmapheresis operation of the United Biologic Corporation facility in Phoenix. The Maricopa County Health Department has been requested to follow the operation closely. REPORT RECEIVED.

HEARING CONSERVATION SERVICES

Dr. Kohl reported that he had a communication dated February 7, 1967, received from Lee Zumwalt, Executive Director, Easter Seal Society for Crippled Children and Adults of Arizona, Inc., enclosing a proposal it has prepared for a demonstration grant for hearing conservation services in Arizona. They have been working very closely with many agencies in the hope of providing these services in Arizona. Summarizing, the project will stimulate the development of comprehensive services for the hearing impaired who live in the rural and smaller communities of Arizona, and will augment fragmented and incomplete services. While complementing the identification and evaluation programs of existing organizations, it is especially directed toward the initiation and coordination of rehabilitation services, followup activities, and public educational programs. Early identification of preschoolers, preventive medicine, and rehabilitation are stressed. A continuing followup program is detailed; integrating resources within and outside the community to provide more comprehensive services for each individual. An education program for professionals, general public, hearing impaired and parents is included. One of the rather unique features is the demonstration of a hearing conservation program with the intensive use of volunteers and other local participants. Technical consultation is provided by Project Staff, because of the acute shortage of local community specialists. To maximize the skills of those available in the State, a coordination of public, private and voluntary agencies' services is suggested. The culturally unique—Indians and Mexican-Americans — will receive special attention wherever indicated. Concentrated efforts toward continuation of services for the hearing impaired after the termination of the grant are designed into the Project. It was regularly moved and unanimously carried that the Professional Committee recommend to the Board of Directors that it go on record supporting this project in principle.

Reported through the Collier Hearing and Speech Center, the American Academy of Ophthalmology and Otolaryngology has a standing committee on hearing conservation. It seeks information as the activities in this area. The AAOO Committee has various materials in the form of films, pamphlets, etc., which are available and may be helpful. Much needs to be done and much can be done in this area. School and Industrial Hearing Conservation Programs need organizing and upgrading, and an all-out effort to publicize the importance of hearing conservation must be started. It is believed that the State Medical Societies should be the controlling influence and that information concerning hearing conservation can emanate under their sponsorship. Much can be done through cooperation of state and local public health offices, but the initiating influence should be in the state societies. If the Board of Directors favorably considers the previous recommendation, the AAOO Committee could be informed that the Easter Seal Society for Crippled Children and Adults of Arizona, Inc., has a program set up for this purpose.

NATIONAL DIABETES WEEK

Dr. Kohl reported progress associate with the Diabetes Detection Drive Program to be undertaken again in Arizona during National Diabetes Week. A meeting was held during the Annual Meeting of the Arizona Medical Association in convention here in Scottsdale to which all county chairmen were invited to attend. The attendance was disappointing. The use of autoanalyzers was discussed; however, the cost appears prohibitive. Dextrostix will again be used. Certain of the doctors in Pima County objected to their use in the previous program. It was determined to seek approval of the Board of Directors of the Pima County Medical Society with regard to the proposed 1967 Diabetes Detection Program. Those Pima physicians in attendance at this meeting agreed to using Dextrostix; however, they expressed their lack of enthusiasm for the program unless some way could be devised whereby those who tested high on the Dextrostix would then immediately check with an autoanalyzer. This would involve extra expense amounting to probably a maximum of twenty-five to thirty cents per test. Representatives from Pima stated that it would enthusiastically endorse the program if the autoanalyzer test could be applied where indicated at no expense to the Society. If this were not feasible, Pima County may wish not to participate in the 1967 program. The program anticipated is admittedly a screening process; false positives and not false negatives are wanted; the private physicians would be abrogating their responsibility should they determine not to participate. Followup procedure during the last program was reviewed.

It was regularly moved and unanimously carried that this Professional Committee recommend to the Board of Directors that the Arizona Diabetes Detection Program be continued and made statewide; further, that it is the recommendation that the County Committees of this program be made up of General Practitioners, Internists and other physicians with a special interest in diabetes; and further, that the program be continued only as a "screening type of program" with no attempt to further the diagnosis of diabetes, but to refer the possible diabetics to their private physicians or to an institution if they are in a charity category.

Allied Medical Groups

In the absence of Dr. William B. Helme, Chairman of this Subcommittee, no formal report was submitted.

PRESCRIPTION LABELING

In the absence of Dr. Helme, Dr. Payne, former Chairman of this Subcommittee, reported that the meeting with the Arizona Pharmaceutical Association was carried out in response to its request. It feels that the Medical Society should be aware of what goes on with the prescribing of drugs for Nursing Home patients. Drugs given patients in such homes that do not have a pharmacy, which is all of them other than the ones that are connected with large hospitals, should be under prescription. They appeal to doctors who do prescribe these drugs to designate the quantity of the prescription because, very often, they feel this is exploited by the Nursing Home. If it is not prescribed, they will order one thousand; further, they raise the question of Nursing Homes that use a certain pharmacy. The patient, if competent, or the patient's family should have the right to choose the druggist just as they choose the physician, or, at the request of the family, the attending physician should recommend a pharmacy. A policy statement that drugs prescribed for patients in Nursing Homes that do not have pharmacies be prescribed through the usual and customary channels and filled at any ethical pharmacy; and that such prescriptions call for the dosage strength and number of doses. The question of labeling the drugs in strength on a prescription appears to be a problem for discipline within the Pharmaceutical Association. Labeling the drugs seems to be within the province of the physician who is writing the prescription. The number of refills on occasion are designated in the prescription. If a patient takes the bottle to another druggist and he refills without a prescription, this appears to be a matter of violation of the law and policing within the pharmacy organization. For this Association to recommend that prescriptions be not labeled would be extremely unwise. Another concern of the druggists is the now frequently appearing recommendation that the patient should be price-wise and shop around for a pharmacy who will supply the drugs at the lowest cost. This has been suggested by AMA. Possibly, the professional integrity of the pharmacist should be emphasized to the patient rather than the price of the drug. An exchange of articles in our respective journals was suggested. Dispensing of drugs in doctors' offices was another matter of concern to the pharmacists.

It was regularly moved and unanimously carried that this Professional Committee recommend to its Board of Directors that it encourage an interchange of articles for pubilcation in the respective journals of the Arizona Pharmaceutical Association and this Association; further, that it recommend the prescribing of drugs in the usual and customary fashion for patients in Nursing Homes with a specific number on it; in the matter of labeling of drugs, that this be entirely within the province of the physician prescribing the drug; and that the Arizona Pharmaceutical Association be invited to participate in our annual convention to the extent of supplying an exhibit (at cost).

ACUTE CORONARY CARE

Dr. Payne reported in the matter of a Joint Statement on Acute Cardiac Care, sought by representatives of the Arizona State Nurses' Association, the Arizona Hospital Association, the Arizona Heart Association and the Arizona Medical Association, stating that the Statement has been reviewed and abstracted and referred to Cardiologists, other physicians and counsel, and it appears that nothing objectionable is found in the Statement by the individuals contacted. This has to do with a nurse doing things that she ordinarily might not do; but, it is predicated on the trained nurse, in a unit, and it was Dr. Payne's thought that the Statement is entirely acceptable and should be endorsed.

It was regularly moved and unanimously carried that this Professional Committee recommend to its Board of Directors that this Association endorse the Joint Statement on Acute Cardiac Care submitted by the Arizona State Nurses' Association.

ARIZONA BAR LIAISON

Dr. Payne reported that one of the last acts of Dr. Brooks, former member of this Professional Committee, was to confer with the Arizona Bar, and it is agreed to re-establish its Liaison Committee. A number of problems have arisen, and it is timely to confer. It is to be expected Dr. Helme will further this objective. REPORT RECEIVED.

ANATOMY BOARD RULES AND REGULATIONS

In the matter of proposed Rules and Regulations governing the activity of the Anatomy Board of the State of Arizona, the Board of Directors, in meeting held January 29, 1967, accepted in principle the Anatomy Board recommendations (Rules and Regulations) to aid in obtaining anatomical specimens for the medical school; that Dr. Schoen, Editor-in-Chief, be directed to publish an informative article in our State Journal requesting cooperation of the members of the State Medical Association; that this whole matter be referred to the Professional Committee for further study and report back to the Board as soon as possible; and that the Board and Professional Committee members be given a copy of the recommendations of the Anatomy Board. There was forwarded to the members the proposed Rules and Regulations and an article did appear in ARIZONA MEDICINE. NO FURTHER ACTION TAKEN.

M.D.-D.O. RELATIONSHIP

Considerable discussion ensued regarding the M.D.-D.O. relationship and action of the Board of Directors at its meeting held January 29, 1967, that it reiterate the stand of Arizona Medicine that it would welcome discussion with the osteopathic physicians of Arizona on the basis of amalgamation into one healing art based on the accepted tenets of scientific medicine. It was determined to give considerable thought thereto and further discussion at the next meeting of this Professional Committee.

Ahtletic Medicine

MEMBERSHIP

Under the Chairmanship of Dr. Richard L. Dexter, Roland V. Murphy, M.D. (Tucson) and Leonard Hudson, M.D. (Tucson), Ex Officio, of the Pima County Public Health Department, were recommended reappointed, Thomas P. K. Lim, M.D. (Tucson) is no longer a resident, and the vacancy should be filled. Initially, it was considered wisdom to include coaches and trainers representing paramedical people. A Mr. Nixon, now Dr. Nixon, having been awarded a Ph.D. degree, was an ASU trainer. A Mr. Arthur Dickenson, Trainer at ASU, in charge of the Athletic Department — Athletic Health — was also suggested. Paul J. Nichols, M.D. (Phoenix), an Orthopedist; James V. Rose, M.D. (Phoenix), a General Practitioner; and Edward E. Conn, M.D. (Mesa), an Orthopedist, have been suggested by the Maricopa County Medical Society. Bernard W. Simons, Jr., M.D. (Tucson), a General Surgeon, is suggested as a replacement for Dr. Lim. C. Herbert Fredell, M.D. (Flagstaff), a General Surgeon, has been suggested representing the northern part of the State (NAU). It was suggested that these recommendations be submitted to the Chairman in order that he may communicate with them and endeavor to solicit their interest and acceptance in appointment as members of his Subcommittee.

Dr. Dexter, by letter dated June 10, 1967, reports that his Subcommittee has been active on a local and state level. The local activities have been primarily in organization and supervision of a Jogging Program in Tucson in collaboration with the Southern Arizona Heart Association. This particular program has caught hold and seems to be doing very well. Activity on the state level has been primarily of liaison with the AAU. The Chairman of the Subcommittee has been appointed as Medical Advisor to the Arizona AAU Association and it is anticipated that this particular horizon will be expanded. RECEIVED.

Disaster Medicine

MEMBERSHIP

Determined to reappoint Carl W. Waldron, M.D. (Scottsdale) to membership on this Subcommittee; also, appointment of Joseph C. Pinto, M.D. (Yuma), who is with the Yuma County Public Health Unit. All other members previously appointed will continue to serve.

IMMUNIZATION

Dr. Baker expressed deep appreciation for the financial support of the Association granted associate with the approved immunization program. The educational program will continue through the summer. Dr. Robert S. Ganelin (Phoenix) is now a member of the Immunization Committee. The statewide lay population portion of the program will commence September first next. It is planned to visit Tucson, Yuma and Flagstaff and other county societies throughout the State as deemed indicated. RECEIVED.

Emergency Care

MEMBERSHIP

Dr. Schaller reported that, as this is a new committee, he would like to defer appointment of the subcommittee membership to a later meeting following receipt of the proceedings of the Emergency Care Symposium in Chicago held recently. It appears there will be a great deal of work associate with this Subcommittee's activity, and he would like to search for members interested therein.

ACTIVITIES

Emergency Medical Care is going to take on a new direction, Dr. Schaller assumes, because of the push of the Federal Government. As he sees it, this committee is going to have a great deal of work not only in care in Emergency Rooms, but rather the whole aspect of emergency medical care, which is going to include search and rescue of the ill and injured as well as coordination of all these facilities with the hospitals and with the doctors. This will encompass communications, radio and otherwise — the whole area; all this is in line with the Bill passed by Congress last year — the new Highway Safety Act. One aspect of this Act is a pretty detailed outline of what they will anticipate will come under the control of the State Health Department for improving emergency medical care throughout the State, primarily on the highways, but they feel this will improve all emergency care.

AMBULANCE SERVICE — ORDINANCE

Submitted for approval was a Model Ordinance or Statute Regulating Ambulance Service as required by the American College of Surgeons, the American Association for Surgery of Trauma, and the National Safety Council. It is to be submitted to the Arizona Corporation Commission and adopted by it as a General Order appropriate for the State of Arizona, and it is hoped it will be recommended by the Arizona Medical Association, American College of Surgeons — Arizona Chapter, and the American Red Cross — Maricopa County Chapter. This General Order meets the minimum requirements of the Federal Safety Standards P.L. 4.411 enacted by Congress, regulated by the National Highway Safety Agency. The Ordinance encompasses several areas: the licensing of ambulances, the obtaining of liability insurance for ambulances, ambulance inspection facilities, ambulance equipment, the licensure of drivers and attendants, the training of drivers and attendants; and setting health standards for drivers and attendants; it also contains a provision for reports by ambulance operators on various calls, how long it takes them to get to the response of the call, and how long it takes them to get there and how long before they deliver the patient; it includes a provision for obedience to all traffic laws, including speed ordinances, stop lights, etc.; and it includes penalties for violations of the different aspects of this law. To accomplish these objectives, the State shall provide the health agency with the authority and responsibility to establish and enforce training, licensing, and related requirements for ambulance operators, attendants, including drivers and dispatchers; establish and enforce requirements for types and numbers of emergency vehicles provided by operators and for the supplies and equipment; establish and enforce requirements for the operation and coordination of ambulances and other emergency medical care systems. This shall include a requirement that, whenever vehicle ambulances carry two-way radios, they shall be capable of operating in coordination with police departments and hospitals.

It was regularly moved and unanimously carried that this Professional Committee recommend to the Board of Directors approval of this obviously carefully prepared model Ordinance, bearing the approval of the Executive Committee, Drs. Arthur V. Dudley, Jr., Arnold H. Dysterheft and John P. Heileman voting in favor thereof.

Industrial Health

In the absence of Ray Fife, M.D., Chairman, no report submitted.

Medical Education

MEMBERSHIP

Determined to continue the membership of this Subcommittee with the exception that James Garland Wood, Jr., M.D. (Flagstaff), Charles I. Fisher, M.D. (Phoenix), and John B. Alsever, M.D. (Scottsdale) replace Monroe H. Green, M.D., Lowell C. Wormley, M.D., and C. Herbert Fredell, M.D.

TV PROGRAMS

Dr. Boyden L. Crouch is continuing the TV programs. They will be conducted throughout the summer months from ASU. The U of A Educational TV is being converted over to a brand new color set-up, which will take about three months. They are putting in a high TV broadcasting point that will bring this color into Phoenix, and if this be the case — if we can pick this up on one station — there will be no reason to divide it between ASU and U of A. When this is achieved, we will get some good programs and we would also hope for a different time. The time currently, of course, is 10:30 p.m. on Wednesday.

POST-GRADUATE EDUCATION

Dr. Melick stated that he anticipates future activity of his committee to be light in that there is a movement under way in Maricopa County which has taken a good deal of time, but in any event, what we are hoping to bring up to the Board of Directors of Maricopa County Medical Society before not too long is something with regard to post-graduate education, especially residency training, hoping to integrate all the programs in Phoenix. This is long-range programming which will take from three to five years to achieve. Further details will be reported to this Committee at the next meeting. Dr. May offered the services of the Arizona Psychiatric Society in connection with this program. REPORT RECEIVED.

Medicine and Religion

In the absence of the Chairman, Dr. Albert G. Wagner, no official report submitted.

MEMBERSHIP

Dr. Wagner requests that his Subcommittee membership composite be continued with the prerogative of adding one or two members. APPROVED.

Mental Health

MEMBERSHIP

Approved continuation of the Subcommittee membership composite with the addition of three new members: Duane K. Tevis, M.D. (Phoenix), John H. Jarvin, M.D. (Phoenix — Not ArMA member), and David Burgoyne, M.D. (Phoenix — Not ArMA member).

SELECTIVE SERVICE REJECTEES

In connection with Selective Service Rejectees, Dr. May presented the problem especially concerning psychiatric rejectees. An organized effort to correct, but especially prevent, the appalling statistics of rejections as indicated by statistics of the Arizona State Department of Health, the Selective Service Standards for rejection on a psychiatric basis being considered totally inadequate and without valid medical or scientific base, it is suggested that there be reviewed the criteria used by Selective Service and ascertain the way the criteria is being used. Section 16 is, with the most casual reflection, grossly overstated and oversimplified as a valid medical basis for rejection in the Armed Forces. It is suggested that the Arizona Medical Association initiate appropriate action for review by the American Medical Association and their consideration of bringing pressures to effect appropriate changes. The Arizona Psychiatric Society has covered this same issue and is in the process of getting the American Psychiatric Association to do the same thing. The criteria for rejection in the Armed Services under "psychoneurosis" reads: "The causes for rejection for appointment, enlistment, and induction are: (a) history of the psychoneurotic reaction which has caused (1) hospitalization; (2) prolonged care by a physician; (3) loss of time from normal pursuits for repeated periods even if brief duration; (4) symptoms or behavior of repeated nature which impaired school or work efficiency; . . . (b) history of a prepsychoneurotic reaction or nervous disturbance within the preceding twelve months which was sufficiently severe to require medical attention or absence from work or school for a brief period — maximum of seven days." If you even consult a physician for a full emotional problem, you are eligible for rejection. Now, the criteria is — as you go over this, you can easily see, this is the most valid criticism — has nothing to do at all with medical criteria; it all has to do with somebody seeing somebody for a complaint, or it has to do with being off work for seven days, or less, or being out of school for seven days, or less; this can be used — and I know of two or three instances where it has been used — to get rejected. All you have to do is report that you were in the hospital five days because you were nervous, and that's not enough to get rejected; so it can be abused by individuals, but most important is that it is not a valid medical criterion.

It was regularly moved and unanimously carried that this Professional Committee recommend to its Board of Directors that this be drawn to the attention of the American Medical Association for their review and, if agreed, to try to bring some pressure to bear for upgrading the standards.

The Chairman was designated to operate with his Subcommittee in liaison with the Arizona Psychiatric Society in the drawing up of appropriate criteria for Selective Service in the area of psychoneurosis and psychiatric disability.

MEETINGS

The Executive Committee of the Arizona Psychiatric Society has on several occasions concerned itself with the competition of the Arizona Psychiatric Society meetings and the Arizona Medical Association annual meeting. The APS is a district branch of the American Psychiatric Association; the volume of business as an official branch of the APA and the business relevant to psychiatric issues in Arizona require three meetings per year, each covering two and one-half days, and in addition to this, the Executive Committee meets monthly. This works out to be a fall, winter, and spring meeting. Consequently, in the spring, psychiatrists are choosing between the APA, ArMA, APS and other meetings. Because of the possibility of not allowing specialty meetings during the Arizona Medical Association meeting, internal competition results for attendance of the respective medical meetings; also, for psychiatrists, their specialty demands conflict with their goal to be more active in ArMA. If other specialties have no similar or unique comparable conflict, they would not expect special consideration; otherwise, the Arizona Psychiatric Society would appreciate reconsideration of the ban on specialty meetings during the annual Arizona Medical Association meeting for the purpose of enhancing both organizations by virtue of avoiding practical decisions of time and energy.

It was determined that Dr. May prepare a letter along this line and forward it to the Scientific Assembly Committee, which body meets June 17, 1967, with the recommendation of this Professional Committee that it is in accord with activities in this direction.

ANNUAL INTERNATIONAL MEDICAL TOWN HALL

Dr. May submitted a draft of proposal for the creation of an annual International Medical Town Hall by organized Medicine that is imaginative and appealing to the citizenry, to significant politicians, to the news-reporting industry, and to professional and civic leaders. A fall kick-off program that would entice qualified representatives to evaluate the above proposition as to mutual interest and cooperation, desirability, and feasibility is proposed, the program to be co-sponsored by The Arizona Medical Association, Inc., and the Arizona Psychiatric Society. The formal program for this "kick-off" event would be the respective responsibilities of organized Medicine and State Government in mental health. This would include, but limited to, a review of the history of sound legislative programs and the ones particularly relevant and successful in 1967. It is presumed that the historical legislative contributions will be put in context of the mental health picture (e.g., organized Medicine, private practice, etc.). In keeping with the criteria for goal of this project, the speaker should be nationally known (Governor Nelson Rockefeller as the speaker) associated with a state which has a long-term history of sound mental health legislation, who has personally contributed to Medicine, and who is interested in, contributed to, and is welcomed South of the Border. The formal program would be the administrative responsibility of the Arizona Psychiatric Society with the President of The Arizona Medical Association, Inc., as an active member of the program committee charged with the responsibility of approving all major and minor details according to his discretion and holding veto power. The Arizona Medical Association, Inc., would have the responsibility of organizing and chairing the planning meeting. This would include inviting qualified representatives and proceeding with developing the formal structure for future annual symposiums.

It was regularly moved and unanimously carried that this Professional Committee recommend to its Board of Directors that The Arizona Medical Association, Inc., co-sponsor with the Arizona Psychiatric Society the "kick-off" program of the proposed annual International Medical Town Hall, the formal program to be the administrative responsibility of the Arizona Psychiatric Society with the President of the Arizona Medical Association, Inc., as an active member of the program committee charged with the responsibility of approving all major and minor details according to his discretion and holding of veto power, The Arizona Medical Association, Inc., to have the responsibility of organizing and chairing the Planning Committee, including the inviting of qualified representatives and proceeding with developing a formal structure for future annual symposiums, without financial responsibility.

Poison Control

MEMBERSHIP

Dr. Robert J. Antos, Chairman of the reactivated Poison Control Subcommittee, requests that his Subcommittee be allowed to be a committee of one until such time as it has business to transact.

POISON CONTROL ACTIVITY

Considerable discussion ensued regarding the scope of activity of this Subcommittee. Reactivation was requested by the Board of Directors of the Pima County Medical Society feeling that there is need for a permanent Poison Control Committee at the state level to coordinate the activities of the several county Poison Control Committees. Presently, the major continuing source of up-to-date material originates out of the College of Pharmacy of the University of Arizona under Dr. Pinchioni. Statewide coordination is desirable with a view of assisting the smaller communities of the State. Lack of communication and the apparent lack of knowledge of the sources of poison control information among the physicians is responsible for the problem. Dr. Antos was requested to consider different angles of the problem, communicate with the component county medical societies to ascertain their interest and comments regarding availability of poison control information and suggestions as to how this Association can best serve in correlating the activity statewide or otherwise. The Chairman agreed to undertake such investigation.

Public Health

Dr. Robert S. Ganelin, Chairman of the Subcommittee on Public Health, will present his report after lunch.

Safety

In the absence of the Chairman of the Subcommittee on Safety, Dr. MacDonald Wood, no report was submitted.

Woman's Auxiliary

Dr. W. Shaw McDaniel is Advisor to the Woman's Auxiliary. He reports that there has been little activity; that he is always available; and that any matter of importance will be brought to the attention of the Professional Committee. He suggested that the Woman's Auxiliary be given more recognition; and, possibly, the Scientific Assembly Committee of ArMA might involve the Auxiliary a little more in the annual meetings. REPORT RECEIVED.

MEETING ADJOURNED FOR LUNCHEON

AT 1:10 P.M.

MEETING RECONVENED AT 2:30 P.M., ALL MEMBERS PRESENT DURING THE MORNING SESSION RESPONDING "AYE" TO THE ROLL CALL, WILLIAM G. PAYNE, M.D., CHAIRMAN, PRESIDING.

Public Health

MEMBERSHIP

It was intended to continue Dr. George A. Spikes (Douglas) in the section on Rural and Migrant Health; however, he has not responded and it may be necessary to replace him.

Dr. Walter E. Ahrens (Tucson), serving on the section on School Health, has resigned for the third or fourth time, and it is assumed his decision is now final. He has been asked for recommendations. He has not responded. Dr. Albert L. Rhoades (Phoenix) will succeed him in this capacity.

Dr. Hermann S. Rhu will continue on the section on Perinatal and Maternal Mortality, also, Maternal and Child Health.

Effort is being made to seek someone interested in the section on Environmental Health, Water and Air Pollution. Dr. Howard M. Kravetz served in this capacity, resigned, and Dr. Hugh E. Dierker (Flagstaff) was appointed to succeed him, later to resign at the time of his departure from Arizona. Dr. Kravetz has been communicated with in an endeavor to seek the services of his associate, Dr. Levine (not ArMA member). He is particularly interested in pulmonary diseases, and Dr. Ganelin, Chairman of the Subcommittee on Public Health, would like him to assume the duties of this section.

Further recommendations will be forthcoming.

PHYSICIANS AND SCHOOLS

The Eleventh National Conference on Physicians and Schools, sponsored by the AMA Department of Health Education, is scheduled to be held in the LaSalle Hotel, Chicago, October 4 through 7, 1967. Dr. Ganelin was requested to obtain information as to the content of the program and submit his recommendation as to attendance whether he or someone else of his Subcommittee might be available.

SCHOOL HEALTH PROGRAM

Presented by the Arizona State Department of Health is a Synopsis of a Physical Examination and Immunization Referral Program as a part of a proposed School Health Program. Dr. Spendlove could discuss this more in detail; however, he is not here. Basically, the portion of it which is outlined in this communication is one which is designed to implement a school health referral program for physician examination and immunizations, the idea, basically, being that the State Health Department should help orient the schools to orient the general public as to the importance of physical examinations and routine immunization and to direct as much of this as possible to the private physician — nothing available for private medical care — provide this through the other public health facilities; and the basic desire, of course, is to help prevent preventable diseases which may arise from neglect of good team health care. The basic outline of the program seems reasonable; there were a few relevant minor questions raised by Dr. Ganelin, which he thought would best be discussed in detail by his committee and then discussed directly with the State Health Department. The only justification for use of the schools to give immunizations is that you do have a "captive bunch of kids" who by law must go to school. This is a critical area for our Public Health Subcommittee. It is fortunate that we have the cooperation of the Commissioner of the Arizona State Department of Health. Certainly, it is more desirable to have immunizations administered by the attending physician, who maintains records and can administer booster shots when indicated. It is an area where the physician is charged with responsibility, and if he does not furnish the service, somebody else will. This is a most controversial subject. REPORT RECEIVED.

LSD

Dr. May submitted for discussion a problem that he feels organized Medicine, especially ArMA, is going to have to consider, and that is the situation with LSD. The Arizona Psychiatric Society devoted a whole scientific session to this expressly for clinical reasons. It is estimated that the number of citizens of the United States who will have taken one trip or more is in the area of twenty or thirty million by 1968. This is a real problem in psychiatric practice. The use of LSD is becoming widespread, and the lack of physician knowledge about the after effects of LSD, being able to detect the implications of one having taken it, as well as the legal implications of it, is alarming. It is a formidable problem, one that Medicine should give serious consideration. It is becoming a major problem within the schools. APS is concerned in that it is getting to be such a public health problem that it is anticipated there will be legislation formulated, even on a national level, and there is no reason to suspect you could enforce any kind of legislation. This subject would make a wonderful article for ARIZONA MEDICINE, and it should be publicized setting forth the physician's responsibility in this area. REPORT RECEIVED.

P.L. 89-749

Determined to refer back to the Governmental Services Committee for followup the subject of Public Law 89-749, Comprehensive Planning Services.

COMMUNICATIONS

Smoking and Health

Dr. Horace S. Kent (Mesa) was designated the representative of this Association on the proposed State Interagency Council on Smoking and Health. APPROVED.

OTHER BUSINESS

Mental Health Authority

Dr. May reported that, prior to Governor Fannin's administration, the Arizona State Department of Health was appointed as the Mental Health Authority of the State, which means that all Federal monies came in to the State Health Department through this appointment other than construction funds, which is another authority. About three weeks ago, Dr. William Bower, who took over the superintendency of the Arizona State Hospital, invited Governor Williams to his Board meeting, at which time he endeavored to have the Mental Health Authority transferred from the Arizona State Department of Health to the Arizona State Hospital. This maneuver would have transferred $90,000 of monies designated for mental health from the Health Department to the State Hospital. The Governor did not go for it and was considerably distressed over such attempted maneuver. The Arizona Psychiatric Society contacted the Governor, indicating that it felt the Authority should remain with the Arizona State Department of Health until some long-range plan is worked out. Such transfer would fragment mental health and other medical functions. Should ArMA be contacted by the Governor, it is the hope that it will put a brake on any precipitous action on moving the Mental Health Authority to the Arizona State Hospital. REPORT RECEIVED.

MEETING ADJOURNED AT 4:45 P.M.

John P. Heileman, M.D.
Secretary

SCIENTIFIC ASSEMBLY COMMITTEE

Meeting of the Scientific Assembly Committee of The Arizona Medical Association, Inc., held Saturday, June 17, 1967, in the Lanai Room of the Safari Hotel, 4611 North Scottsdale Road, Scottsdale, Arizona, convened for luncheon at 1:10 P.M., Reginald J. M. Zeluff, M.D., Chairman, presiding.

ROLL CALL

PRESENT: Drs. Bright, Daniel; Dudley, Jr., Arthur V., President-Elect; Flynn, Richard O., Vice President; Gordon, Alan L.; Gregory, T. Richard; Grossman, Raymond; Kent, Jr., George B.; Sattenspiel, Edward; Saylor, Blair, W.; Zeluff, R. J. M., Chairman. Staff: Messrs. Boykin, Paul R., Executive Secretary, BOMEX; Robinson, Bruce E., Assistant Executive Secretary, ArMA.

EXCUSED: Drs. Ben-Asher, David M.; Bregman, Edward H.; Carlson, John S.; Currin, John F.; Dysterheft, Arnold H., President; Heileman, John P., Secretary; McDonald, Richard T.; Martin, Richard J.; Moody, Deward G.; Nelson, Arthur R.; Nichols, Paul J.; Phillips, Melvin W.

CHAIRMAN'S REPORT

Doctor Zeluff presented to the Committee for consideration during the luncheon period, a report of comments and suggestions obtained from the President; the suggestion box at the 1967 Annual Meeting; and from other sources, all relative to the affairs of the 1968 Annual Meeting, and in an effort to increase registration and attendance.

MINUTES

The minutes of the meeting of the Scientific Assembly Committee held December 10, 1966, were approved as printed, by motion regularly made and carried.

ORGANIZATION

Assistant Chairman

Paul J. Nichols, M.D., meeting By-law requirements for such assignment, was appointed Assistant Chairman.

Secretary

John P. Heileman, M.D., was appointed Secretary.

ANNUAL MEETINGS

On confirmation of available dates, the Committee unanimously recommends that the 77th Annual Meeting of the Association be extended by one full day to accomplish a new format of arrangements and that the meeting be held in the Safari Hotel, Scottsdale, on April 23 through 27, 1968.

The Committee further recommended that a complete review of available facilities in the Scottsdale area be accomplished by its Chairman and the staff, prior to establishing a meeting place or places for the 1969 and 1970 Annual Meetings.

77th ANNUAL MEETING ARRANGEMENTS

Board of Directors Meeting

Tuesday, April 23, 1968 — 10:00 A.M., and luncheon at 12:00 Noon.

House of Delegates Meetings

First Session — Tuesday, April 23, 1968 — 1:00 P.M. (General Session 2:30 P.M.)

Second Session — Saturday, April 27, 1968 — 8:00 A.M.

ArMA Reference Committee Meetings

Articles of Incorporation and By-laws (Time to be determined)

Resolutions — Wednesday, April 24, 1968 — 8:00 A.M.

Blue Shield Corporation Meetings

First Session — Tuesday, April 23, 1968 — 3:30 P.M.

Second Session — Saturday, April 27, 1968 — 10:30 A.M.

Blue Shield Reference Committee Meeting

Wednesday — April 24, 1968 — Immediately following the ArMA Resolutions Committee meeting.

Tuesday Evening

Tuesday evening, following a full day of business meetings, would be a free evening.

Wednesday Evening

We are strongly considering Wednesday, April 24, 1968, for the President's reception and banquet honoring the incoming President, he having assumed the office during the General Session on Tuesday afternoon. It was suggested that the President's banquet be followed by high caliber entertainment, utilizing appropriate means to obtain LEADING names from the entertainment world, replacing the prior program of a dinner speaker. The Committee recognizes the economics involved but believes if top entertainment could be obtained at a reasonable cost, the affair might prove highly palatable to our Association. Wednesday is particularly considered since it is felt that the cost factor would be decreased earlier in the week. These factors are to be thoroughly investigated by Doctor Gordon and the staff prior to our next meeting, tentatively scheduled for early September.

It was regularly moved and unanimously carried that this Committee recommend to the Board of Directors that the registration fee for the incoming President, including social events, be borne by the Association; and that the incoming President be given the privilege of inviting up to six (6) outside guests to his banquet, if he so desires, at no cost.

This affair, if approved, would of necessity be by ticket reservation and made available to members and their guests at cost. This in turn may permit reduction in the registration fee, covering breakfast panels and the reception and lawn party steak fry.

Thursday Evening

Providing the Wednesday night affair is approved then Thursday evening, April 25, would present the annual reception and "steak fry" on the lawn of the Safari Hotel, weather permitting, the reception at 7:00 P.M. with dinner to follow at 8:00 P.M. Exhibitors and their wives will be the guests of the Association, and members of ArMA and guest speakers will be provided two tickets on registration for the meeting at no additional cost.

Friday Evening

It was determined to reserve this evening for ArMPAC, if it wishes to schedule an event; also, that Specialty Groups and/or Alumni Groups be granted equal privilege should any choose to schedule events on this evning.

Annual Golf Tournament

The Committee unanimously selected Dale H. Stannard, M.D., as Golf Committee Chairman for the 1968 tournament. Doctor Stannard was given authority to select his Committee and was requested to submit recommendations as to time and place of the tournament, preferably held on Wednesday afternoon, April 24, 1968. The Scientific Assembly Committee recommends an allocation of $100.00 toward the prizes for the tournament.

Sports Events

The Committee directed the Central Office to conduct a survey of the membership, utilizing perhaps "Medical Memos," to determine the desirability of having tournaments for enthusiasts in tennis, bowling and bridge. Following receipt of the results of said survey, the Committee will make recommendations to the Board of Directors toward each affair.

Financial Report

The financial report for the period ending June 9, 1967, was read and approved indicating a deficit for the 1967 Annual Meeting of $827.34. There are additional income and expenditures toward this meeting and a final report will be available at a later date.

Registration Fee

While a final recommendation will necessitate a review of reports of Committee members at its next meeting, the Committee anticipates the registration fee will not exceed $10.00 per member.

The Committee recommends that the Newcomers Program be continued and that exemption of the registration fee be offered to 50 Year Club members, Interns, Residents, Fellows, Military Physicians, Registered Nurses, Members of the Woman's Auxiliary, Exhibitor representatives, Press and Guest Orators. While 50 Year Club Members, Guest Orators and the Press will be guests of the Association at all affairs, others listed above will be expected to purchase tickets for receptions or meals attended. (Note: Exhibitors excepted to steak fry.)

The Committee further directed that the Military Posts and Hospitals in Arizona conducting training programs be forwarded all publicity toward obtaining additional registration from their staff members.

Scientific Exhibits

The Committee unanimously recommends that every effort be made to obtain qualified scientific exhibits of Arizona origin; that scientific exhibits be limited to those of clinical, laboratory or epidemiological research of Arizona origin; that they be manned at ALL TIMES; and appointed Doctor Sattenspiel as Chairman of a Subcommittee to review each exhibit for acceptance on receipt of a request for space.

The Committee also recommends continuation of the Mead Johnson Aesculapius Awards Program and directed that each member of the Scientific Assembly Committee present his recommendation for the winner to Doctor Zeluff not later than 3:00 P.M. Thursday, April 25, 1968, through the facility of the registration desk.

The Committee declined with thanks an offer of Francis H. Stern, M.D., to present his exhibit entitled "Management of Leg Cramps of Peripheral Vascular Disorders" and directed he be so informed.

Technical Exhibits

The Committee recommends that Technical Exhibits be excluded unless they are agreeable to purchase of available exhibit space at the Commercial Exhibit rate.

Commercial Exhibits

Following considerable discussion and on being informed of rates in other areas, the Committee recommends the exhibit space fee for commercial exhibits be set at $300.00 each for the 1968 Annual Meeting; and for those ethical pharmaceutical companies declining exhibit space, the Committee recommends acceptance of contributions toward the scientific meeting.

The Committee determined to recommend continuation of the Exhibit Attendance Awards and wishes to explore the possibility of obtaining prizes from pharmaceutical houses and in the event this is not deemed feasible or prudent, to direct purchase of said prizes from its budget.

While the exhibitor representatives and their wives are guests of the Association for the evening affair of the "steak fry," they may attend the President's Banquet and other social affairs on purchase of tickets.

The hours of participation in the exhibit hall will be determined upon when the program has been completed and approved by the Board of Directors.

A. H. Robins Company — Community Service Award

It was determined to continue the Community Service Award program. It was expressed desirable and directed that the first notice of this event be released to the component county medical societies September 1st; that a follow-up letter be released December 1st; and that a "deadline" for the receipt of applications be established as February 1st.

AAGP — Category I Credit

Richard O. Flynn, M.D., accepted responsibility of obtaining Category I Credit from AAGP for the meeting.

Specialty Group Participation

It was determined that the fee of $150.00 as an assessment for use of the guest faculty by specialty groups be continued and that such specialty group meetings be limited to Tuesday, Thursday, Friday and Saturday luncheons, and to Tuesday and Friday evening affairs, and every attempt will be made to cooperate with interested specialty groups in the establishment of interesting scientific programs.

Woman's Auxiliary

It was determined to provide a maximum of three (3) exhibit hall spaces for the Woman's Auxiliary Hobby, Art and Hospitality features.

The Committee determined to invite and make a special plea for attendance at its meetings to the Program and Convention Chairman of the Woman's Auxiliary.

The members of the Woman's Auxiliary are especially invited to conduct a sports registration desk and hopefully become involved in offering guidance and help in arrangements for entertainment and social affairs of the meeting, and in particular the evening for the steak fry.

Scientific Program

The Committee believes and recommends that the scientific meeting accommodate, on Thursday and Friday, April 25 and 26, two breakfast panels; two afternoon panels; and thirty-two (32) individual papers conducted in eight (8) sessions of four (4) concurrent presentations each, delineating the four major fields of medicine — Internal Medicine, Surgery, Obstetrics and Gynecology, and Pediatrics.

This could be accomplished by obtaining a major faculty from a prominent school of medicine and, in addition, utilizing qualified papers from physicians resident in Arizona and members of ArMA.

The Committee appointed Doctor Alan Gordon as Chairman of a Subcommittee to review such papers and recommends notices be prepared and released through "Medical Memos" and ARIZONA MEDICINE toward obtaining these papers. The Committee urged Doctor Gordon's subcommittee to express a preference for papers dealing with clinical office practice rather than research, and particularly invite papers from the smaller specialty groups, interns, residents and the University of Arizona Medical School, and set a deadline for receipt of an abstract of the papers on November 15, 1967.

It was determined there would be no "theme" for the Annual Meeting.

Following discussion the Committee determined that Doctor Zeluff, Chairman, negotiate with the Dean of the Medical School of the University of Southern California, Roger O. Egeberg, M.D., in an effort to obtain the guest faculty as early as possible.

The hosts for guest speakers were recommended to include some members from the Newcomers group, in an effort to obtain greater interest and participation in the meeting among the younger and newer men in the medical community.

Promotional Program

The Committee determined the official program for the 1968 Annual Meeting be published on or about April 1, 1968; recommended that program publication might derive more interest in the March rather than April issue of ARIZONA MEDICINE; and directed that all publicity releases carry a schedule of all affairs of the meeting following approval of the Board of Directors.

Generally, publicity will be conducted by the staff on approval of the Chairman, and Doctor Bright was requested to assist in all publicity and especially in the northern Arizona area.

The Committee directed that notices be released in January and again in March of 1968 to the effect that ALL members of ArMA are invited and welcome to attend the meetings of the House of Delegates; that such notices contain the titles of Resolutions in hand to be presented before the House; and that ANY member has the privilege of the floor at the Reference Committee meetings.

COMMUNICATIONS

John W. Vosskuhler, M.D., Flagstaff — Letter 4/17/67

The Committee reviewed a letter from John W. Vosskuhler, M.D., of Flagstaff, relative to publicity of the 1967 Annual Meeting and reviewed a response thereto.

The Chairman indicated he would respond further to Doctor Vosskuhler.

OTHER BUSINESS

Medicare Fiscal Agent

The Committee recommends that a representative of the Fiscal Agent for Public Law 89-97, Part B, be invited to address the first session of the House of Delegates on Tuesday, April 23, 1968, regarding fiscal matters of the program.

Delegate Registration

The Committee recommends that delegates to the meetings of the House of Delegates be required to register for the Annual Meeting and that component county medical societies be so informed that they may inform their delegation.

Uniformed Guard

The Committee recommends that a uniformed guard be employed and stationed at the entrance to the exhibit hall and the meeting rooms, and that he be instructed to deny admission to any person not wearing a registration badge provided by ArMA.

Registration Badge Cases

There having been complaints relative to clip-on type badge cases, the Committee directed its staff to obtain samples of other type badge cases for inspection at its next meeting.

PROFESSIONAL COMMITTEE

The Scientific Assembly Committee was requested by the Professional Committee to give thought to the consideration of inviting Doctors of Osteopathy to our Annual Meeting.

Due to time limitations, the Committee determined to postpone its decision in this regard for further study and indicated that any study of this subject should include participation by Merlin K. DuVal, Jr., M.D., Dean, College of Medicine, University of Arizona.

COMMITTEE ACTIONS

The Scientific Assembly Committee, being charged with the responsibility of arrangements for the Annual Meeting of The Arizona Medical Association, Inc., respectfully submits this minute of its meeting held June 17, 1967, to the Board of Directors and unanimously recommends its adoption.

COMMITTEE MEETING

The Committee determined to hold its next meeting in September in the facilities of the Camelback Inn.

MEETING ADJOURNED AT 5:10 P.M.

Respectfully submitted,
John P. Heileman, M.D.
Secretary

Prepared by Paul R. Boykin
Executive Secretary — BOMEX

HISTORY & OBITUARIES COMMITTEE

Meeting of the History and Obituaries Committee of The Arizona Medical Association, Inc., held Wednesday, June 21, 1967, in the Central Office at 4601 North Scottsdale Road, Scottsdale, Arizona, convened at 7:15 p.m., Roland F. Schoen, M.D., Chairman, presiding.

ROLL CALL

PRESENT: Drs. Kennedy, John W.; Schoen, Roland F., Chairman; Sitterley, Jay L. Staff: Robinson, Bruce E., Asistant Executive Secretary.

EXCUSED: Drs. Brazie, Walter; Dudley, Jr., Arthur V., President-Elect; Dysterheft, Arnold H., President; Flinn, Robert S.; Heileman, John P., Secretary; Kohl, Sr., Harold W.; Young, Roy O.

ARIZONA MUSEUM OF MEDICINE

The Chairman, Roland F. Schoen, M.D., pointed out that the purpose of this meeting was to discuss a suggestion made by Mr. Carl E. Behle, Director, Public and Professional Relations of Arizona Blue Shield, that thought be given to the establishment of an Arizona Museum of Medicine to be sponsored jointly by ArMA and Arizona Blue Shield.

Following extended discussion on the many facets of such an undertaking, the Committee made the following recommendations to the Board of Directors and urged their adoption:

1. That the Arizona Medical Association should pursue actively the establishment of an Arizona Museum of Medicine.
2. That the Museum should be under the auspices and control of the History and Obituaries Committee of the Association, encouraging the co-sponsorship of Arizona Blue Shield and the cooperation of the Woman's Auxiliary and other interested groups and individuals.
3. That work on the Museum start immediately upon approval of the Board of Directors.
4. That the location of the Museum be in the Central Office of the Association. At first, it could be handled by glass cabinets mounted on the walls of the reception area of the present office and in filing cabinets.

5. That, should the Association move to other quarters, one of the criteria of selection of these quarters be an adequate area designed for the specific purpose of future development of the Museum.
6. That permission be granted to consult with legal counsel on several questions, including:
   (a) Should the Museum be set up as a separate corporation or should it be operated under the present Association corporate structure?
   (b) Development of proper forms and procedures for receiving items on loan, gifts, grants, etc.
7. That ARIZONA MEDICINE be designated as the official organ of the Arizona Museum of Medicine.
8. That the Museum would include:
   (a) physical display of historically interesting artifacts,
   (b) writings, pictures and other materials of historical significance, and
   (c) provision for historical research, such research to be encouraged.

It was pointed out that the cost of starting this project would be minimal, consisting mainly of display cabinet construction and a few filing cabinets.

One of the prime reasons for making the above recommendations was the realization that "Territorial Medicine" in terms of time is very close but that the tangible evidence is fast disappearing and a true need exists to retain all that is possible for the future.

MEETING ADJOURNED AT 8:10 P.M.

John P. Heileman, M.D.
Secretary
By Bruce E. Robinson
Assistant Executive Secretary

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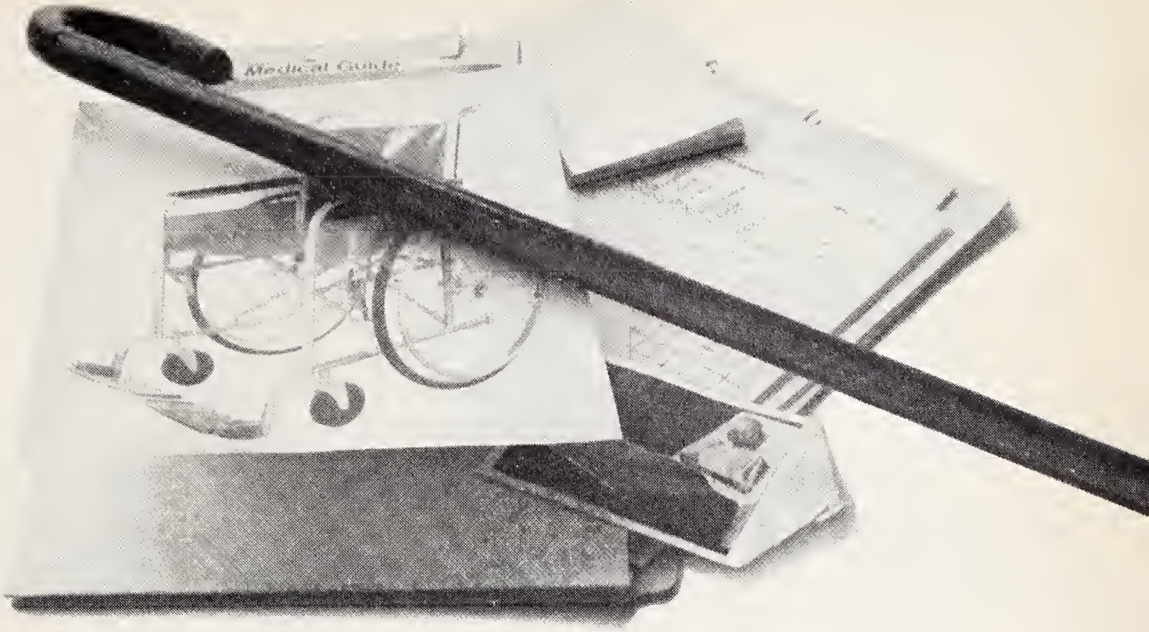

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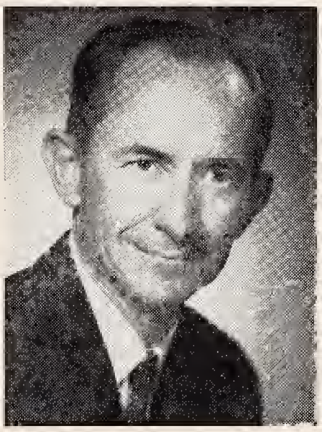
Hemorrhage While On Anticoagulant Therapy Precipitated By Drug Interaction

The significance of the following article can hardly be adequately stressed. Here four commonly recognized and useable drugs have been found to have a definite potentiation on the effect of Coumarins. Other drugs will probably later be added to this list. The author might well say "think before you write" when prescribing drugs to patients under Coumarin therapy.



Preston J. Taylor, M.D.

Tucson, Arizona

ANTICOAGULANT drugs are being widely used in a variety of acute and chronic cardiovascular disorders. Prothrombin depressant drugs are employed most commonly because of their effectiveness by oral administration and their relative ease of control by periodic prothrombin times. At times, however, anticoagulant activity as measured by the prothrombin time may vary widely and unpredictably and abnormal bleeding occur. These variations may occur without any readily demonstrable cause. However, in this paper four instances of hemorrhage due to a drug interacting with the Coumarins are reported.

Case #1: A 58-year-old male had been on Coumadin for 6 years following an acute myocardial infarction. Enroute to Tucson by car he developed severe insomnia. Over a 5 day period he took 3.5 grams of Doriden for sleep. Upon arriving in Tucson he noted his right arm was grossly swollen and ecchymotic without previous trauma. He denied having taken any other medications aside from Peritrate 10 mg. which he had been taking 4 times a day for two years. The prothrombin time was 58 seconds. He was given AquaMEPHYTON intravenously and the Coumadin was temporarily discontinued. After his prothrombin time had returned to normal he was given a loading dose of Coumadin, 35 mg. following which the prothrombin time was determined over a period of 72 hours. Later the patient was given Doriden 0.5 grams daily for 5 days following which he was once again given Coumadin 35 mg. and the prothrombin time determined over a 72 hour period. The results are summarized in Figure #1.

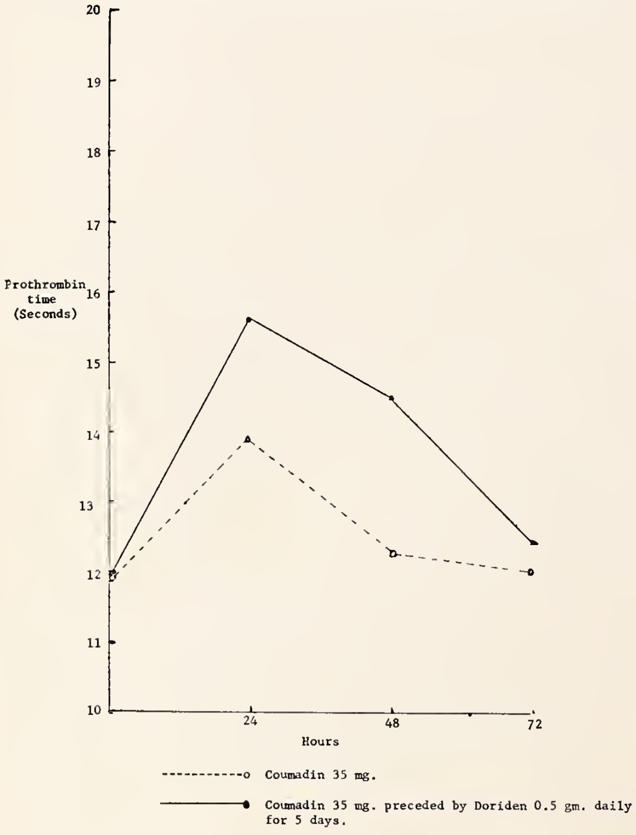


Figure #1

Case #2: A 67-year-old male had been on Coumadin for 5 years for ischemic heart disease. He had been maintained adequately and without difficulty during this time. His only other medications were Lanoxin 0.25 mg. daily and Diruil 0.25 grams daily. Nine days previously he began taking Tandearil 100 mg. 4 times daily for a periarthritis of the right shoulder. Gross hematuria developed and when seen the patient's prothrombin time was 68 seconds. Coumadin and Tandearil were discontinued and AquaMEPHYTON was administered intravenously. After his prothrombin time had returned to normal he was given a loading dose of Coumadin 35 mg. and the prothrombin time was determined over a period of 72 hours. Tandearil was then administered 100 mg. three times a day for 7 days following which he was once again given Coumadin 35 mg. and the prothrombin time determined over a 72 hour period. These data are summarized in Figure #2.

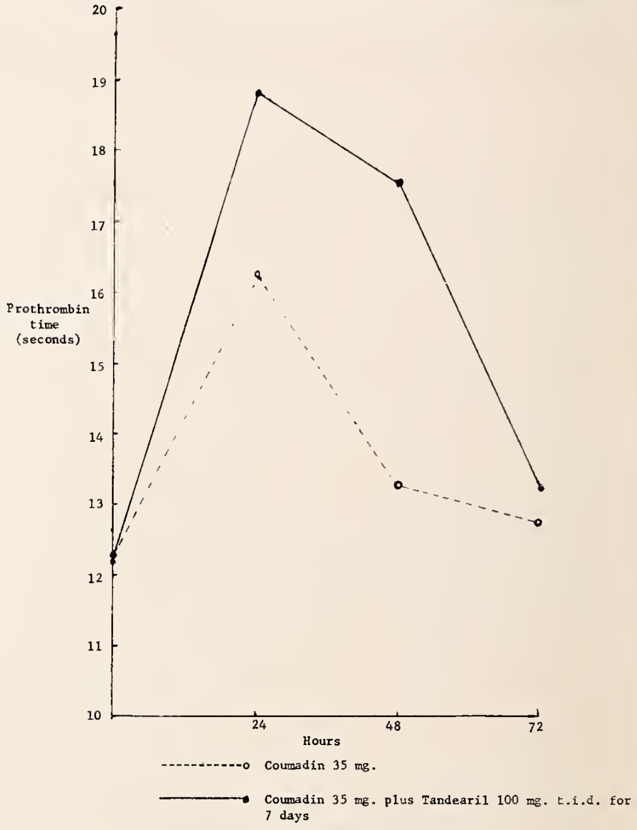


Figure #2

Case #3: A 67-year-old female was receiving Panwarfin therapy for recurrent thrombophlebitis of the right leg. Her prothrombin time had been adequately maintained on 2.5 mg. of Panwarfin daily. She had been previously given phenobarbital 60 mg. for nervousness. Due to familial stresses she began taking 60 mg. 4 times a day, three days prior to being seen. Gross hematuria developed and the prothrombin time was determined to be 46 seconds. Panwarfin was discontinued and the patient was given intravenous AquaMEPHYTON following which the prothrombin time returned to normal. She was given a loading dose of Panwarfin 35 mg. and the prothrombin time was determined over a period of 72 hours. Following this she was given phenobarbital 60 mg. three times a day for 7 days, following which she once again received Panwarfin 35 mg. in a loading dose. These data are summarized in Figure #3.

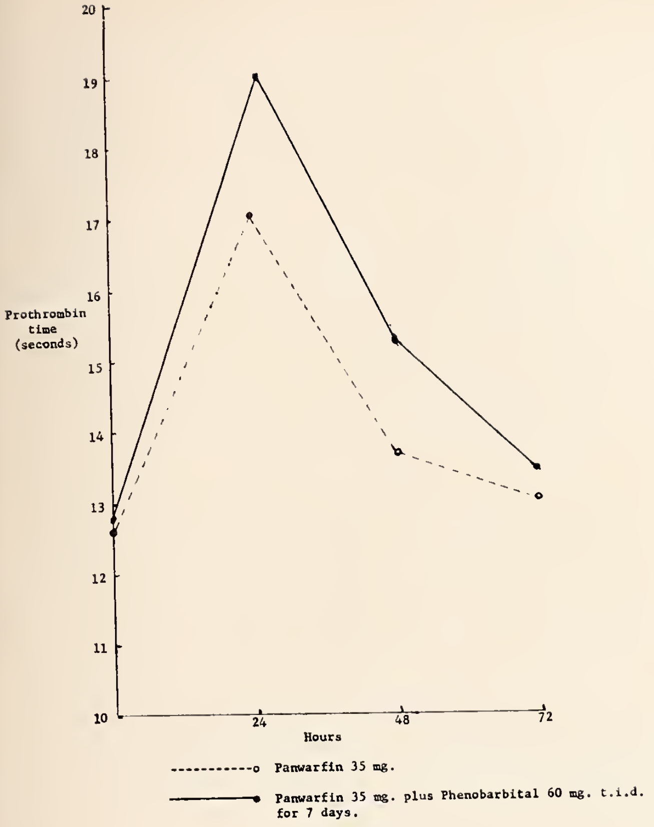


Figure #3

Case #4: This 63-year-old female had been taking Dicumarol for 2½ years for ischemic heart disease with myocardial infarction. Her only other medications were Peritrate 20 mg. t.i.d. and occasional nitroglycerin for anginal syndrome. She apparently had had no difficulty with bleeding on 150 mg. of Dicumarol daily. Two weeks before being seen she took Valium 5 mg. 4 times daily for nervousness. The day prior to being seen she developed multiple ecchymoses of the skin of the upper and lower extremities. The prothrombin time was 52 seconds. She was treated with intravenous AquaMEPHYTON and discontinuance of Dicumarol. Subsequently a loading dose of 300 mg. of Dicumarol was given and the prothrombin curve determined over a 72 hour period. This was repeated following the administration of Valium 5 mg. three times a day for 10 days. The effects on the prothrombin time are summarized in Figure #4.

DISCUSSION: Data reported here indicates a definite potentiation of the effect of the Coumarins by Doriden, Tandearil, Phenobarbital and Valium in these 4 cases. A number of studies have been performed to determine the influence of drugs on the action of the Coumarins. Phenobarbital has definitely been shown to have a synergistic effect as well as have the salicylates. However, there is little data available on the influence of other drugs commonly used, particularly sedatives, analgesics and tranquilizers. The studies conducted here show definite synergistic effects from Doriden, Phenobarbital, Tandearil and Valium. Undoubtedly other drugs commonly used may have potentiating or inhibitory effects on Coumarin activity. Griseofulvin has recently been reported to have an inhibitory effect.

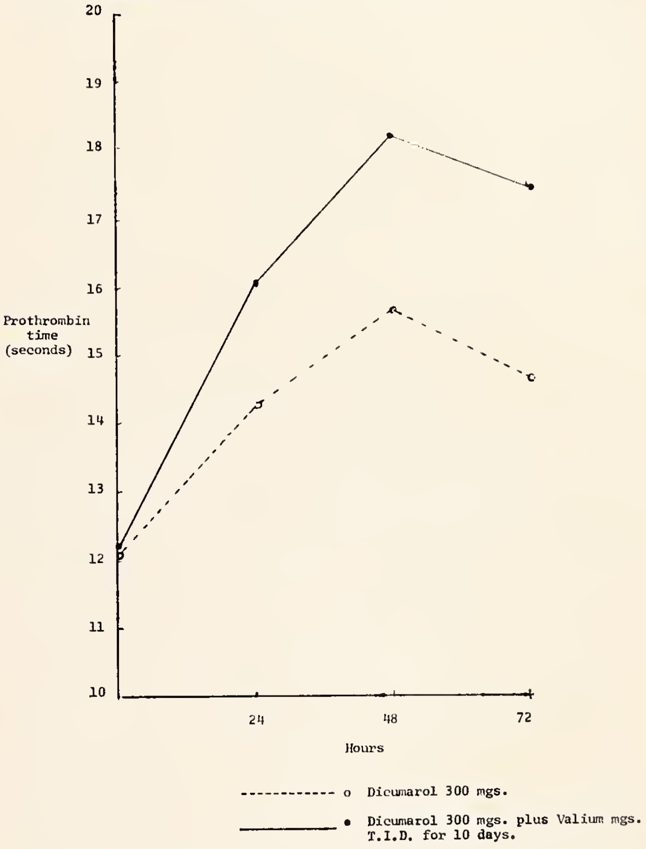


Figure # 4

SUMMARY: Four cases are reported demonstrating hemorrhage occurring as a result of synergism bewteen Coumarin and other drugs. Doriden, Phenobarbital, Tandearil and Valium were implicated in these cases. Determination of the prothrombin time over a 72 hour period using the offending drugs in combination with the Coumarin definitely showed potentiation of anticoagulant effect. Care should be used in prescribing sedative and tranquilizer type drugs in patients receiving the Coumarins.

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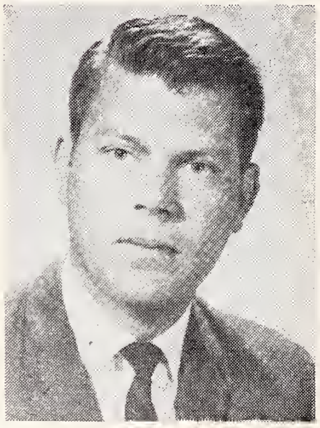
Delayed Rupture Of The Spleen

Delayed rupture of the spleen is often accompanied by a confusing symptom complex, but if the possibility of splenic trauma is kept in mind, a prompt and accurate preoperative diagnosis is possible.



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Delayed rupture of the spleen is defined as rupture occuring greater than forty-eight hours after the initial injury.[1] The ratio of immediate to delayed rupture after blunt trauma is about six to one. Twenty-five years ago falls[2] were the major cause of splenic rupture; however, Wilcox[3] recently reported a series in which fifty-eight per cent were associated with auto accidents. Of this group, nineteen per cent were delayed. Similar statistics are presented by Donhauser and Locke.[4] This suggests that the incidence of delayed rupture of the spleen is increasing. The diagnosis of splenic rupture, acute or delayed, must be considered and sought carefully after any trauma to the chest or abdomen.

The case report below is presented to point out a group of symptoms and signs which may confuse the clinician. Their etiology will be discussed.

REPORT OF CASE

P.R., a seventeen-year-old white female, entered the Emergency Room of Good Samaritan Hospital with the history of having been suddenly awakened from sleep by severe left upper quadrant and rectal pain four hours previously. One hour after the onset of pain, left lower quadrant cramps developed and were followed by a sudden watery bowel movement. The cramps abated but the left upper quadrant pain persisted. During the following hour she began to suffer from left shoulder pain on deep inspiration. Nausea, vomiting, chills, and fever were denied.

Three weeks prior to admission the patient had received a blow to the left lateral rib cage in an auto accident. X-rays revealed no evidence of rib injury. She did experience left lower chest pain for about twenty-four hours, but was then asymptomatic until the day of admission.

Her father died of tuberculosis. Review of systems was noncontributory.

On physical examination the blood pressure was 120/80. Her temperature was 98.8°, and respirations were 18. The pulse was 84 lying down and 108 when sitting. HEENT examination was negative and the lungs were clear to P & A. The heart had a regular sinus rhythm without murmurs or enlargement. Abdominal examination demonstrated active bowel sounds with tenderness in the entire upper abdomen and right lower quadrant without guarding or rebound tenderness. No masses or organs were palpated or percussed, and shifting dullness could not be demonstrated. Rectal examination revealed tenderness on the left.

On admission to the hospital the hemoglobin was 12.5 grams. The white count was 10,200 with 80 segs, 18 lymphs, and 2 monocytes. Urinalysis was normal. Twenty-four hours after admission the white blood count was 7400 with 62 segs, 1 band, 25 lymphs, 9 monocytes, and 3 eosinophiles Hematocrit was 36. Reticulocyte count was 1.2%. Amylase was 22 units, SGOT was 8 units, Vandenberg: Direct .2 mg.%, Total .4mg.%. Chest film was normal. Flat and upright films of the abdomen showed a possible medial shift of the stomach bubble. The renal and psoas shadows were normal.

Twenty-four hours after admission the left shoulder pain had abated but sitting up now produced pain at the top of the right shoulder unrelated to respiration. Abdominal tenderness was most pronounced in the right lower quadrant. Little change was noted over the ensuing two days, on the fourth hospital day laparotomy was performed.

On opening the abdomen numerous old blood clots were noted throughout. The cecum was distended. The spleen was surrounded by hematoma and the upper pole was fractured. Splenectomy was performed. The postoperative course was uneventful and the patient was discharged on the eighth postoperative day.

The spleen weighed 175 grams and measured 13 cm. x 6½xm. x 4 cm. Four centimeters from the upper pole a transverse laceration three centimeters long and two centimeters deep was found. A hemorrhagic area two and one half centimeters in diameter was found at the base of the laceration. Smaller hemorrhagic areas were scattered over the surface of the spleen. Microscopic examination revealed a large subscapsular hematoma at the laceration site. Organization was in process with fibroblastic proliferation seen at the margins. Other scattered hematomas had a thick capsule of fibrovascular tissue.

COMMENT

Acute rupture of the spleen can be catastrophic with some reports indicating a mortailty of 25%. Delayed rupture may be even more dangerous for the trauma may be trivial or the interval from trauma to final rupture prolonged, resulting in failure to appreciate the possibility of the diagnosis. Seventy-five per cent of delayed ruptures occur within two weeks of the injury, but longer intervals have been reported, even up to two years.[5] A careful history is essential in making the diagnosis since the trauma is usually trivial or forgotten. In the case presented, it was the history, in the face of confusing symptoms and signs, that eventually led to a preoperative diagnosis of delayed rupture of the spleen.

Referred pain in the left shoulder, Kehr's sign, is infrequently seen in delayed rupture.[6] It was transient in our patient. Laboratory studies are of limited value. A falling hematocrit and elevated white count with shift to the left[3,6,7,8] have been described but were of no value in the present case.

Flat and upright films of the abdomen have been shown to be helpful in some cases.[9,10] Enlargement of the splenic shadow and displacement or compression of adjacent organs should be sought. Unless hemorrhage is massive, these changes will be subtle, and a negative report must not discourage the diagnosis.

Abdominal paracentesis[3,11] has been employed as a diagnostic aid. A positive yield is found in the majority of cases, but negative results are not infrequent. If the possibility of splenic rupture is good, I would prefer exploration in view of the immediate (further massive hemorrhage) and delayed[8] results of unrecognized splenic rupture.

Confusion in the reported case arose over the left lower quadrant cramps followed by tenemus and diarrhea with subsequent findings of right lower quadrant tenderness. Dodd[12] described a similar sequence of events following delayed splenic rupture. It was his contention that blood irritated the descending colon producing spasm with transient diarrhea followed by distention of the cecum with resulting right-sided tenderness. This confusing finding of tenderness in the right side of the abdomen following splenic rupture has been mentioned briefly in recent reports.[13,14] Certainly one must be aware of this possibility if the diagnosis of delayed rupture of the spleen is to be made.

SUMMARY

A case of delayed rupture of the spleen is presented. A confusing group of symptoms and signs are described and their etiology discussed. Their appreciation, as initially described by Dodd, may be of future aid to the clinician in diagnosing this entity which should be increasing in incidence in this country.

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Why Radioisotope Scanning?

¿Porque La Escansion Con Radioisotopos?

S. V. Hilts, M.D.

Although patterns of dots, stripes, and blocks of varying clarity have appeared in the medical literature for several years, many clinicians still feel isotope scanning to be an abstruse technique suitable only for research centers, and question its importance in the daily practice of medicine. It is the purpose of this paper to demonstrate some common situations in which the radioisotope scan can furnish aid not available from any other source.

In order to appreciate what a scanner can demonstrate, one must first understand how it works. Essentially, it is a movable, double-ended arm with a radiation detector at one end and a variable light source at the other, connected so that the brightness of the light is proportional to the amount of radiation detected. As the detector moves over a variable source, in this case a patient who has been given radioactive tracers,

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Aunque desde hace varios años, han sido publicados en la literatura médica, estas gráficas de puntos, rayas y bloques, de una intensidad variable, como ayuda paraclinica, muchos médicos tienen la impresión de que este tipo de examen tan solo esta destinado a hacerse en los centros de investigación cientifica, y dudan de su valor en la practica general. Es mi intención demostrar casos en los cuales se llego a un diagnóstico correcto con la ayuda del Escandigrama, que de otra manera no podría haberse hecho usando otro medio paraclínico.

Antes de ver que es lo que el Escandógrafo puede demostrar, debemos entender como funciona. En principio, es un brazo movible con dos estremos, en un extremo tiene un detector de radiación y en el otro extremo una fuente de luz variable, conectados entre sí, de manera que la intensidad de la luz es proporcional a la cantidad de radiación. Conforme el detector se

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Traducido Por
B. O. Morentin, M.D.

the light on the other end of the arm forms a "picture" on X-ray film of the distribution of radioactivity (Figure 1). The principle is simple; however, the necessary electronics are complex.

A radioisotope, or radioactive form of an element, may be incorporated in any molecule containing the "cold" form of the element. For example, radiomercury (mercury-203) may replace the usual atom in a molecule of diuretic. Moreover, metals can be attached temporarily to protein molecules, as iodine-131 is incorporated in human serum albumin (IHSA). Such molecules, "tagged" with radioactive tracers, are metabolized identically to the usual forms.

Most organ scans utilize the selective concentration of a "tagged" substance by normal tissue, and the absence of such concentration by space-occupying lesions such as tumors, cysts, abscesses, or hematomata. This principle is illustrated by the liver scan, for which we have used the dye Rose Bengal tagged with iodine-131. The direct approach allowable by accurate localization of a liver abscess avoids peritoneal exploration and contamination of large areas; often the drainage can be accomplished without entering the peritoneal cavity.

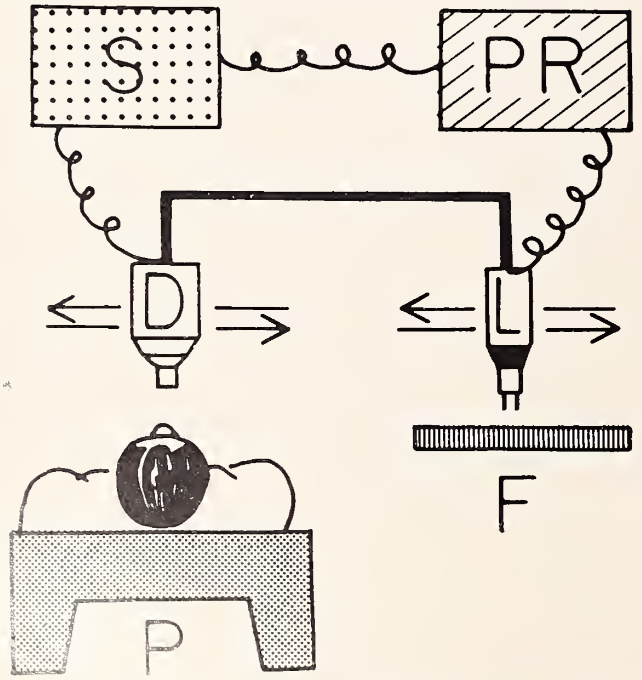

Figure 1. Fig. 1—The principles of photoscanning. P indicates patient; D, detector, containing scintillation crystal, photomultiplier tube and focusing collimator; S, linear amplifier, scaler, and X-ray spectrometer; PR, photorecorder; L, light; F, film. (Reproduced with permission from Wagner, Henry, et al.: Diagnosis of Liver Disease by Radioisotope Scanning, Arch. Intern. Med. 107:324, March 1961.)

Fig. 1. Diagrama de un Escandografo.

mueve sobre un campo radioactivo (que es este case es el enfermo que ha recibido material radioactivo) la luz al ponerse en contacto con una placa (Fig. 1) de rayos x, da una "imagen" de acuerdo con la distribución de la radioactividad. El principio es simple, pero la técnica electrónica es complicada.

Un radioisotopo o forma radioactiva de un elemento, puede ser incorporado en cualquir molécula conteniendo la forma "fría" del elemento. Ej: radiomercurio (mercurio-203) substituye el mercurio comun en la molécula de un diurético mercurial; así como también metales se pueden incorporar en una forma temporaria a moléculas de proteinas yodo-131 incorporado a seroalbúmina humana (IHSA). Estas moléculas "marcadas" con trazas de material radioactivo son metabolizadas del mismo modo las moléculas normales.

La mayoría de los Escandigramas se basan en la concentración específica de una sustancia marcada por el tejido del órgano en estudio y b) la ausencia de concentración de la sustancia marcada en lesiones que destruyen el tejido normal, ej: tumores, abscesos, y hematomas, etc. Esto se puede demostrar por medio de este Escandigrama Hepático en el cual se utilizo Rosa de Bengala marcado con yodo-131. La localización exacta de un absceso hepático permite su ataque directo, evitando una exploración abdominal con la posiblidad de contaminación, y en muchas ocasiones se drenaje se puede hacer completamente extraperitoneal.

Caso No. 1: Enfermo de 48 años de edad, dependiente, fue admitido al hospital con fiebre y escalofrios. Después de una semana de examenes sin resultado alguno, y debido a que durante este periodo el enfermo desarrolló dolor en el quadrante superior derecho, le hizo un Escandigrama Hepático (Fig. 2), el cual demostró claramente un absceso en la porción lateral del lóbulo derecho. Este absceso fue drenado extraperitonealmente con un mejoramiento pasajero. El enfermo desarrolló otra vez fiebre y falleció a los poco días. En la autopsia se encontró absceso que habia destruido el lóbulo izquierdo. Este error diagnóstico fue debido a que se tomo por normal el que el hígado no se extiende más allá de la linea media (muchos hígados normales no pasan la linea media); el lóbulo izquierdo no se puedo identificar en el Escandigrama, por-

Case No. 1: A 48-year-old salesman was admitted because of chills and fever. After seven days of X-ray and laboratory investigation no diagnosis had been made. Because of tenderness which had developed in the right upper quadrant, a liver scan was done (Fig. 2), demonstrating an obvious abscess laterally in the right lobe. After extraperitoneal drainage of this abscess, the patient improved temporarily, then again became febrile and died. Autopsy demonstrated a large abscess which had destroyed the left lobe. In retrospect, it is seen that the assumption that the liver did not extend beyond the midline (as many normal livers do not) was in error; the left lobe is not seen on the scan.

Metastases may often be demonstrated in the liver. Definite knowledge of such lesions may spare the patient useless efforts at radical removal of the primary; if chemotherapy is practicable, its progress may be followed by serial scanning.

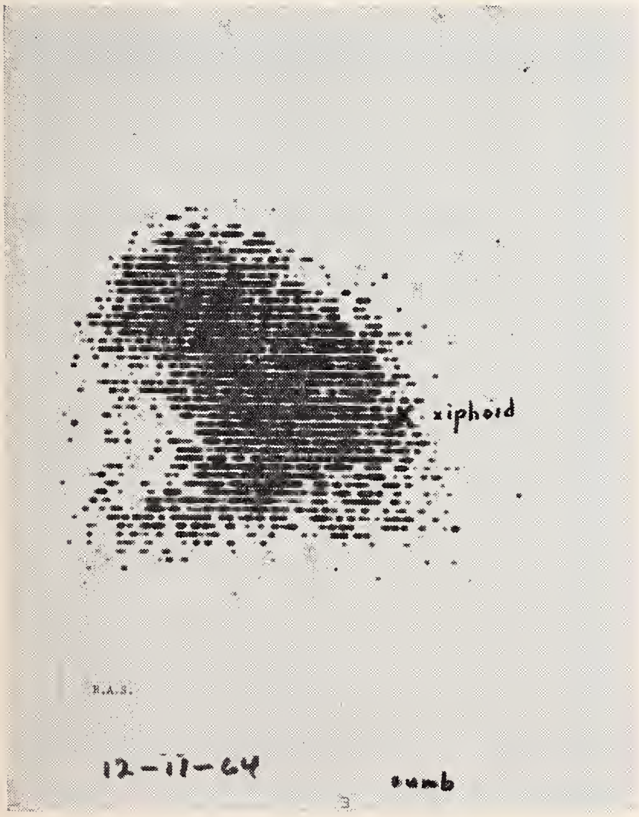

Figure 2. Liver scan, Rose Bengal iodine-131, showing abscess in lower right lobe and destruction of left lobe by another abscess.

Fig. 2. Escandigrama Hepático, usando Rosa de Bengala Iodizado 131, demostrando un absceso en el lóbulo derecho y otro en el lóbulo izquierdo.

que estaba pudo destruido proyecto.

Lesiones metástaticas hepáticas también pueden demostrarse y su presencia hace innecesaria una intervención quirurgica para remover el foco primario; sc quimoterapía esta indicada, su resultado puede seguirse por este medio.

Caso No. 2: Enfermo de 15 años de edad en el cual se encontró sarcoma osteogenico, después de una fractura de pierna en 1962; la pierna fue amputada en Febrero 1963. En Diciembre 1963, se tomó un Escandigrama Hepático (Fig. 3A), el cual demostró áreas de destrucción localizadas en el lóbulo izquierdo y lóbulo inferior derecho. Con cursos diferentes de una terapía a base de actinomicina-D y clorambucil, se obtuvó un mejoramiento marcado, el cual puede apreciarse en los Escandigramas de Febrero 1963 (Fig. 3B) y Julio 1965 (Fig. 3C).

De manera similar diuréticos mercuriales "mareados" se pueden utilizar en los Escandigramas Renales para el diagnóstico de tumores, abscesos o quistes renales.

Case No. 3: Enfermo diabetico de 60 años de edad, fue admitido al hospital con una tumoración en el flanco derecho; el riñon derecho no se visualizó en el Pielograma intravenosa. Escandigrama Renal usando chlormerodin mercurio-203 (Fig. 4) demostró solamente restos de tejido renal funcional en el lado derecho. En la sala de operaciones se encontró un riñon policistico infectado el cual fue extirpado.

La sospecha de ausencia de un riñon ya sea congenita o adquirida, puede confirmarse por medio del Escandigrama, así como también en casos de riñones pequeños, que no puedan ser localizado por la Pielografía intravenosa. El Escandigrama es de mucho valor cuando existe sensibilidad por parte del enfermo hacia el medio de contraste usado en rayos x, haciendo imposible la investigación roentgenológica.

La glándula tiroides, fue la primera glándula estudiada en ésta forma, debido a su capacidad para concentrar el yodo 10,000 veces más que la concentración sanguinea, y aún todavía, es la glándula en la cual más diagnósticos se hacen por medio del Escandigrama. En el enfermo tirotoxico, es de mucha importancia distinguir entre un hipertiroidismo nodular y uno con la Enfermedad de Graves, antes de instituir su

Case No. 2: A 15-year-old schoolboy was found to have osteogenic sarcoma following a leg fracture in 1962; the leg was amputated in February 1963. A liver scan (Fig. 3A) in December 1963 showed large areas of destruction in the left and inferior right lobes. With repeated courses of Actinomycin-D and Chlorambucil, marked improvement was obtained, as shown in the scans of February 1964 (Fig. 3B) and July 1965 (Fig. 3C).

Similarly, renal scans using "tagged" mercurial diuretics may be used to localize tumors, abscesses, or cysts in the kidney.

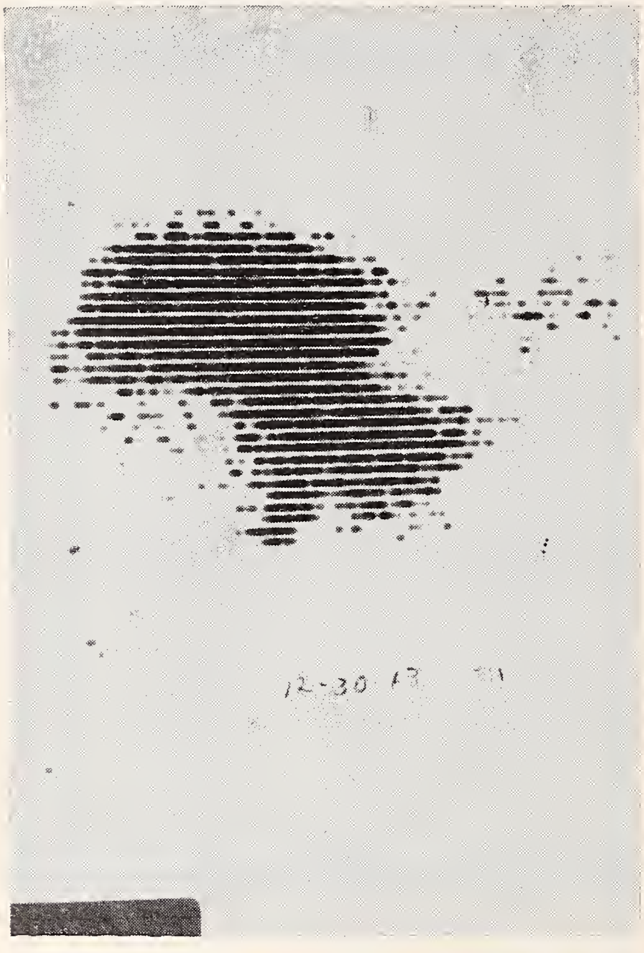

Figure 3A. Liver scan, showing metastases from osteogenic sarcoma. December 1963.

Fig. 3A. Escandigrama Hepático, demostrando metástasis en un caso de sarcoma osteogenico — Diciembre 1963.

Case No. 3: A 60-year-old diabetic white male was admitted with a palpable mass in the right flank. The right kidney was not seen with intravenous pyelography. A scan using Chlormerodrin mercury-203 (Fig. 4) showed only a trace of functioning renal tissue on the right. At surgery, a multicystic, infected right kidney was removed.

terapeútica, ya sea quirurgica o por yodo radioactivo, (el tipo nodular requiere dosis altas de yodo radioactivo o la extirpación de todas las áreas hiperactivas). Si el enfermo es eutiroideo, la identificación de un "nódulo caliente," implica una terapía de supresión, ya que tales nódulos casi siempre son benignos.

Caso No. 4: Enferma de 70 años, tenía un nódulo en el lado izquierdo del cuello. El Escandigrama (Fig. 5) demostró que éste era un "nódulo caliente," el cual fue tratado con extracto tiroideo.

Por el contrario, áreas de tiroides que concentran el yodo radioactivo en una forma deficiente, sugieren la presencia de malignidad y la intervención quirurgica esta indicada.

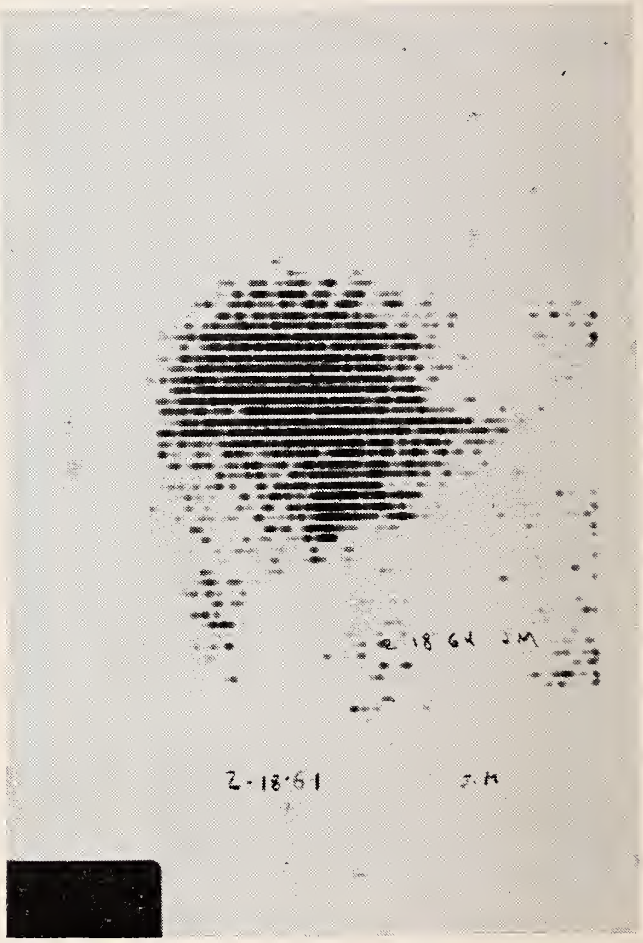

Figure 3B. Same case as Fig. 3A, February 1964, following chemotherapy. Regression of lesions in left lobe and inferior right lobe.

Fig. 3B. El mismo caso de Fig. 3A — Febrero 1964, después de quimoterapía. Lesiones en los lóbulos izquierdo y derecho inferior, han involucionado.

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Figure 3C. Same case as Figs. 3A and 3B, July 1965, following chemotherapy. Right lobe now nearly normal.

Fig. 3C. El mismo caso — Julio 1965. Lóbulo derecho casi normal.

The suspected absence of a kidney, either destroyed or congenitally missing, may be confirmed, or a small kidney which is not seen on intravenous pyelography may be localized. The scan is particularly useful when sensitivity to X-ray contrast media prohibits roentgenologic investigation.

The thyroid gland, with its ability to concentrate iodine to 10,000 times the bloodstream concentration, was historically the first organ scanned, and it remains one of the most productive for diagnosis by scan. In thyrotoxicosis, it is important to distinguish nodular hyperthyroidism from Graves's disease prior to therapy, either surgical or by radioiodine (the nodular type requires higher doses of iodine-131 or removal of all hyperactive areas by surgery). In euthyroidism, identification of a palpable nodule as "hot" effectively establishes benignity and allows a trial of suppressive therapy.

Caso No. 5: Enferma de 75 años de edad, con un nódulo palpable en el lóbulo inferior izquierdo del tiroides. Debido a que el Escandigrama (Fig. 6) demostró un nódulo "frío" (ausencia de concentración del yodo radioactico) en una glándula normal; se exploró a la enferma y el diagnóstico final fue Adenocarcinoma Papilar.

Algunos carcinomas tiroideos, de tipo papilar a adenomatoso, aunque relativamente "fríos" comparados con áreas normales de la glándula, conservan su habilidad de concentrar el yodo radioactivo en forma satisfactoria, **comparada con otros tejidos**; localizandose así metástasis en otros órganos por medio del método de Escansión General (corporal).

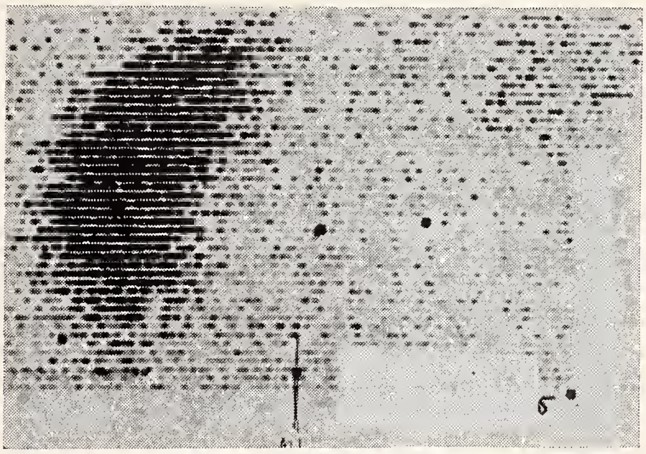

Figure 4. Renal scan, showing large left kidney, minimal activity superiorly representing diseased right kidney.

Fig. 4. Escandigrama Renal, mostrando un riñon izquierdo aumentado de tamano; minima actividad en el polo superior del riñon derecho.

Caso No. 6: Esta enferma anciana, se presentó con una paraplegia de aparición rapida. Durante una operación de decompresión a nivel de la doceana vertebra dorsal, se encontró una tumoración, la cual tenía el mismo aspecto que una glándula tiroides (Fig. 7A). El Escandigrama de Tiroides muestra un "tumor frío" que esta desplazando casi todo el lóbulo izquierdo (Fig. 7B). Se hizo un Escandigrama Corporal, tomado por la parte posterior, ya que la enferma no se podía acostar sobre la espalda (Fig. 7C). La glándulo tiroides brilla a traves del hombro derecho y metástasis se pueden ver en la columna, hígado y pelvis. La enferma rehusó tratamiento.

Tales metástasis, aun siendo inoperables, a menudo disminuyen considerablemente de tam-

Case No. 4: A 70-year-old white woman complained of a mass in the left neck which was easily palpable. A scan (Fig. 5) showed this to be a "hot" nodule which could safely be treated with exogenous thyroid to obtain shrinkage by suppression of thyrotropic hormone.

Conversely, an area which concentrates radioiodine poorly is strongly suspect of malignancy and warrants early surgical investigation.

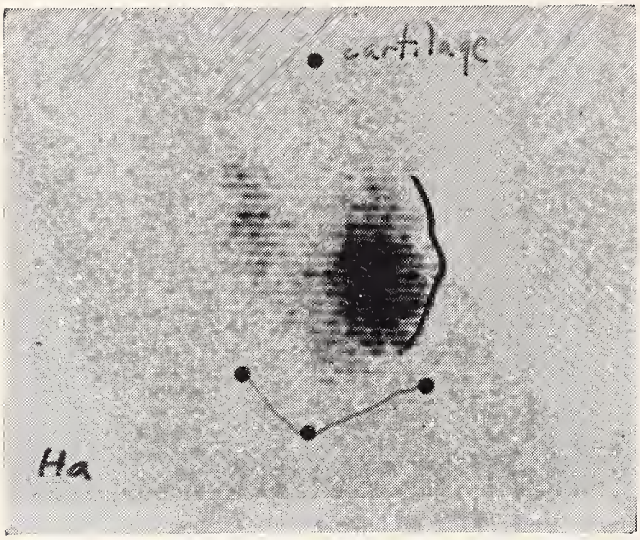

Figure 5. Thyroid scan with "hot" nodule. Suprasternal notch and palpable limit of nodule are marked.

Fig. 5. Escandigrama Tiroideo; con un "nódulo caliente"; estan marcados la muesca supra-esternal y el limite del nódulo.

Case No. 5: A 73-year-old white woman was found to have a palpable mass in the left lower pole of the thyroid. Since the scan (Fig. 6) showed the nodule to be "cold," i.e. failing to concentrate radioiodine as well as the normal gland, surgical exploration was performed and demonstrated papillary adenocarcinoma.

Certain papillary and adenomatous carcinomata of the thyroid, although "cold" relative to the normal portions of the gland, retain an ability to concentrate iodine well compared to other tissues; metastases may be located in distant organs by body scanning.

Case No. 6: An elderly Negro woman presented with paraplegia of acute onset. The biopsy of a mass which was destroying the 12th thoracic vertebra, obtained during a decompression operation, strongly resembled normal thyroid gland (Fig. 7A). A scan of the thyroid gland showed a relatively "cold" mass displacing most of the left lobe (Fig. 7B). A total body scan was then done, from the right posterior aspect because she could not lie flat

ano con yodo radioactivo, una vez que el tiroides ha sido extirpado, debido a que en esta forma se aumenta la cantidad de yodo-131 circulante, que de otra manera se fijara en la glándula. Los cirujanos frecuentemente se sorprenden de los hallazgos del Escandigrama después de una "tiroidectomía total" al encontrar tejido tiroideo normal. A menos que se haga una disección radical de cuello, casi siempre se puede identificar restos de tejido tiroideo.

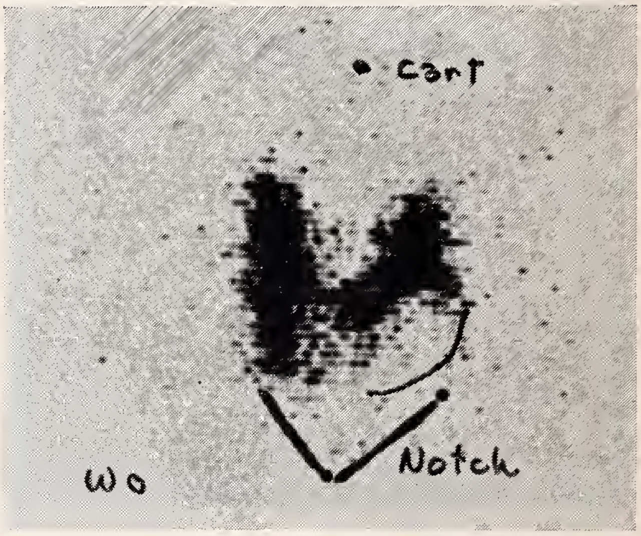

Figure 6. Thyroid scan with "cold" nodule in left lower pole of otherwise normal gland.

Fig. 6. Escandigrama Tiroideo; con un "nodulo frío" en el lóbulo inferior izquierdo; el resto de la glándula es normal.

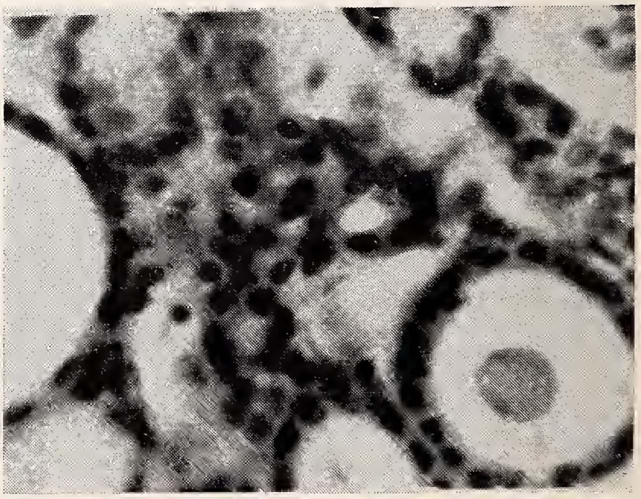

Figure 7A. Tissue resembling functioning thyroid, taken from vertebral metastasis.

Fig. 7A. Tejido que fue extirpado de una metástasis vertebral, resembla tejido tiroideo funcional.

(Fig. 7C). The thyroid gland shines through the right shoulder; metastases are seen in the spine, liver and pelvis. The patient refused further surgery or treatment.

Such metastases, although inoperable, often shrink very satisfactorily with radioiodine therapy, after extirpation of the normal gland to remove its competition for the administered iodine-131. Surgeons are often amazed at the findings of a scan after "total" thyroidectomy. Unless bilateral radical dissection has been accomplished, thyroid tissue can almost always be located.

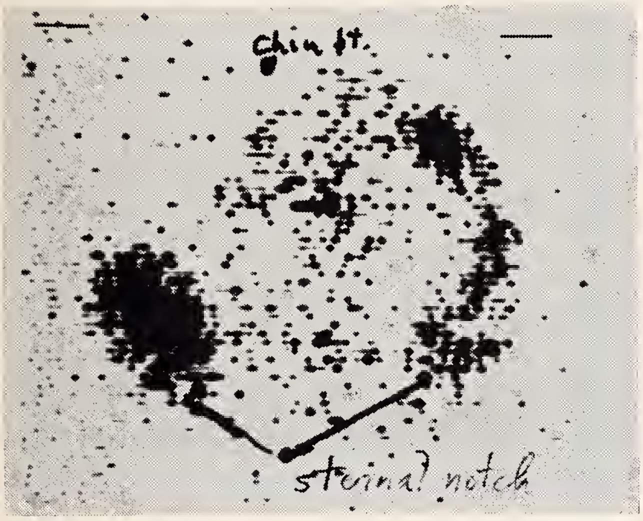

Figure 7B. Thyroid scan, same case as Fig. 7A. Extensive destruction of left lobe by tumor; essentially normal right lobe.

Fig. 7B. Escandigrama Tiroideo; el mismo caso de Fig. 7A; destrucción del lóbulo izquierdo por el tumor; con un lóbulo derecho esencialmente normal.

Case No. 7: A nodule was removed from a 28-year-old woman's thyroid gland in January 1965. When carcinoma was found in the permanent sections, she was returned to surgery for total thyroidectomy, after which scanning was done (Fig. 8). The amount of normal tissue remaining was surprising to the surgeon, but this is the usual finding.

In the brain we utilize a different principle of scanning, using "tagged" materials which diffuse into most tissues, but are stopped by the "blood-brain barrier." Thus a normal brain scan, using iodinated human serum albumin (IHSA), demonstrates activity in the large venous sinuses and the heavily vascularized air sinuses, as well as the temporal and occipital muscles (Fig. 9). Where tumor or abscess is present, albumin "leaks through" the altered barrier into the diseased area.

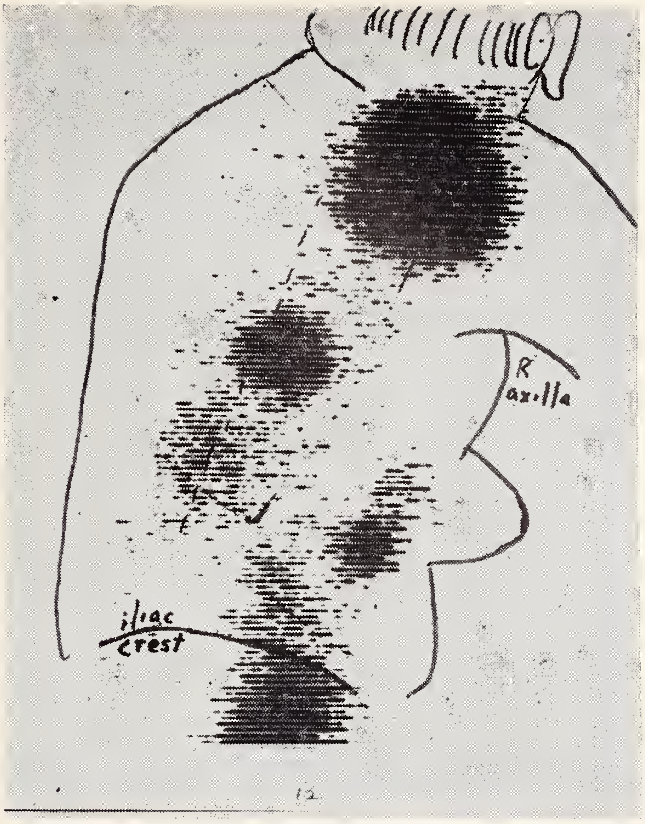

Figure 7C. Same case as Figs. 7A and 7B. Scan of torso showing multiple metastases of thyroid carcinoma. Thyroid gland seen superiorly.

Fig. 7C. El mismo caso anterior, Escandigrama dorsal, demostrando metástasis multiples del carcinoma tiroideo. El tiroides se puede ver en la parte superior.

Caso No. 7: Enferma de 28 años de edad, a la cual se le extirpo un nódulo del tiroides en Enero 1965. Cuando se encontró al microscopio carcinoma, se le hizo una "tiroidectomía total," después de la cual este Escandigrama fue tomado (Fig. 8). La cantidad de tejido remanente fue una sorpresa para el cirujano; esto no es raro.

En el cerebro, el principio del Escandigrama es completamente diferente. Aquí se usan "substancias marcadas" que se difunden libremente en la mayor parte de los tejidos, pero que no pasan la barrera Hemato-encefálica. De manera que en un Escandigrama normal usando sero-albúmina humana radio-yodada (IHSA), se pueden ver claramente los senos venosos majores, los senos faciales debido a su gran vascularidad, así como también los musculos temporales y occipitales (Fig. 9). Cuando existe un tumor o absceso cerebral, la albúmina es extravasada hacia la porción afectada.

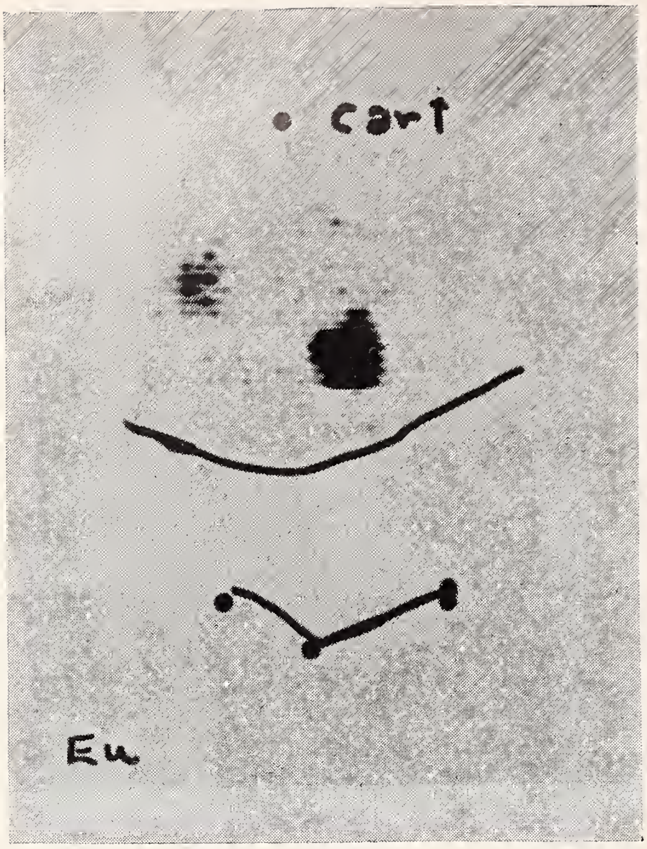

Figure 8. Scan showing residual active thyroid tissue after "total" thyroidectomy.

Fig. 8. Escandigrama mostrando tejido tiroideo actico, post-"tiroidectomía total."

Case No. 8: A 51-year-old white male was hospitalized because of memory defect and aphasia. When cerebral arteriography showed normal findings, a scan (the second done at Tucson Medical Center) was ordered. This (Fig. 10) demonstrated a tumor, which was seen on repeat arteriography ten weeks later. At surgery he was found to have a glioblastoma multiforme, which responded temporarily to radiation.

Case No. 9: An adenocarcinoma of the lung was removed from a 63-year-old lawyer in June 1964. In December, she developed headaches and vomiting. With accurate localization of the metastasis by scan (Fig. 11), removal was accomplished in a 45-minute operation, which the surgeons estimate would have required two and one-half hours had the usual exploration been necessary.

Case No. 10: Since this 57-year-old woman presented with a right hemiparesis, left carotid angiography was done. When it showed nothing, a scan was done (Fig. 12) showing an unequivocal right-sided lesion. Right carotid angiography done at the time of surgery was

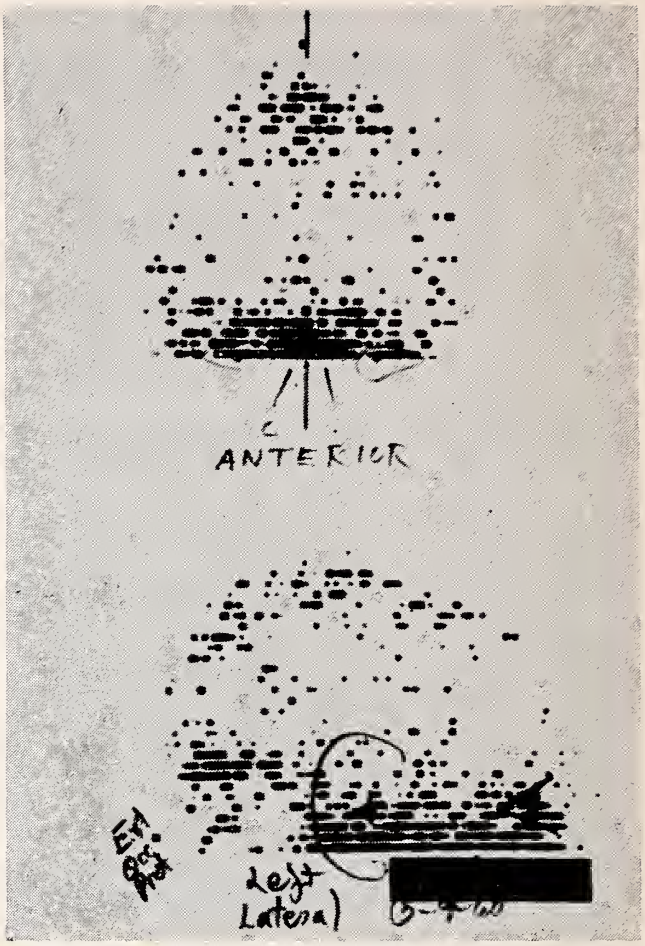

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Figure 9. Normal brain scan: IHSA collected in venous sinuses, especially transverse sinus (lateral view), and temporal musculature.

Fig. 9. Escandigrama Cerebral normal. IHSA colectada en los senos venosos; especialmente en los senos transversos (vista lateral) y en el musculo temporal.

Caso No. 8: Enfermo de 51 años, fue hospitalizado con una memoria deficiente y afasia. Arteriograma fue normal y envista de esto un Escandigrama fue hecho (segundo Escandigrama Cerebral hecho en el Tucson Medical Center). Este (Fig. 10) demostró un tumor, el cual fue demostrado también con un arteriograma hecho 10 semanas después. El enfermo fue operado y el tumor resultó ser un Glioblastoma Multiforme, el cual respondió en forma temporaria a radioterapía.

Caso No. 9: Licenciada, enferma de 63 años, a la cual en Junio de 1964 se la extirpó un adeno-carcinoma pulmonar. En Diciembre, comenzó con dolores de cabeza y vómitos. Con una localización exacta de las metástasis, por medio del Escandigrama (Fig. 11) éstas fueron extirpadas en una operación que duro 45 minutos, operación que estimo el cirujano hubiera durado 2½ horas si la localización de las metástasis no se hubieran conocido, de ante mano.

negative; operation was proceeded with on the basis of the scan, and metastatic breast carcinoma was excised with complete relief of symptoms.

Had scanning not been performed in this case, the patient would have been denied the benefit of operation. In several such cases the scan has been the only study to localize the lesion.

Old and new hemorrhagic lesions may be demonstrated by scanning. The delineation of an ancient subdural hematoma is probably largely due to revascularization, which is visualized by its blood content.

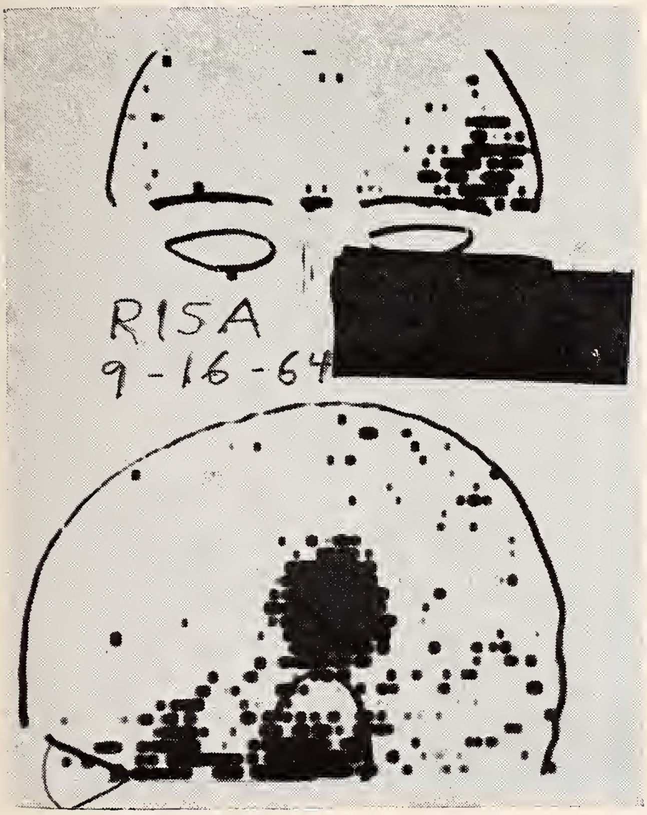

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Figure 10. Brain scan, anterior and left lateral, showing glioblastoma multiforme.

Fig. 10. Escandigramas Cerebrales, anterior y lateral izquierdo, demostrando glioblastoma multiforme.

Case No. 11: A 60-year-old white man was referred from Navojoa, Sonora, with a history of head injury two weeks previously, followed by headaches and right-sided clumsiness. The scan (Fig. 13) showed a left subdural hemorrhage, which was confirmed at operation.

The radioisotope brain scan has an accuracy of 80%-90% in several large series of tumors[1-6] comparable to the reported accuracy of pneumoencephalography and cerebral arteriography. Scanning requires neither anesthesia nor hospitalization, creates no morbidity, and may be done

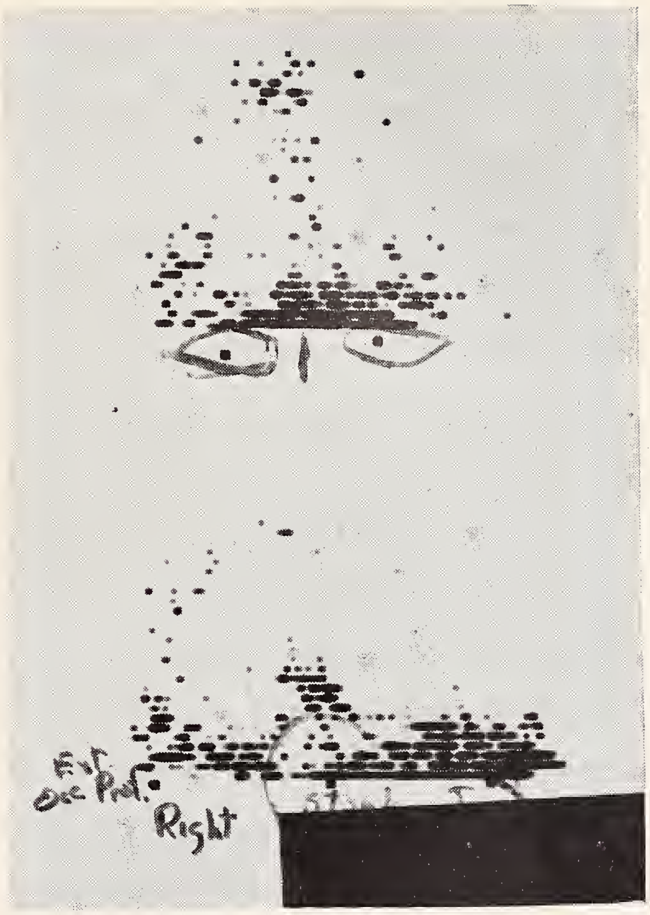

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Figure 11. Brain scan, anterior and right lateral: metastatic adenocarcinoma of lung.

Fig. 11. Escandigramas Cerebrales, anterior y lateral derecho, metastasis de adenocarcinoma pulmonar.

Case No. 10: Enferma de 57 años, que se presento con una hemiparesia derecha, y un angiograma de carotida izquierda fue hecho, resultando negativo. Se hizo un Escandigrama el cual demostró sin lugar a duda una lesión en el lado **derecho** (Fig. 12). En el acto operatorio un angiograma de carotida derecha resultó negativo también; sin embargo se prosigió con el acto quirurgico, teniendo como base los hallazgos del Escandigrama, encontrandose un foco metástatico de un carcinoma de mama, éste fue removido on desaparición completa de síntomas.

Este caso demuestra que si el Escandigrama no se hubiera hecho, la enferma no hubiera obtenido los beneficios del acto operatorio. En repetidas ocasiones el único estudio para localizar metástasis ha sido el Escandigrama.

Hemorragias cerebrales recientes y viejas pueden ser demostradas por este metodo. La demarcación de un hematoma subdural viejo se hace probablemente a base de su revascularización ojo.

repeatedly in doubtful or treated cases. At Tucson Medical Center isotope scan, electroencephalography, and lumbar puncture have become the usual screening procedures for brain tumor suspects, the more hazardous procedures being held in reserve.

Scanning of the blood pool within the heart using IHSA, can distinguish pericardial effusion from dilated heart without the hazard of angiography.

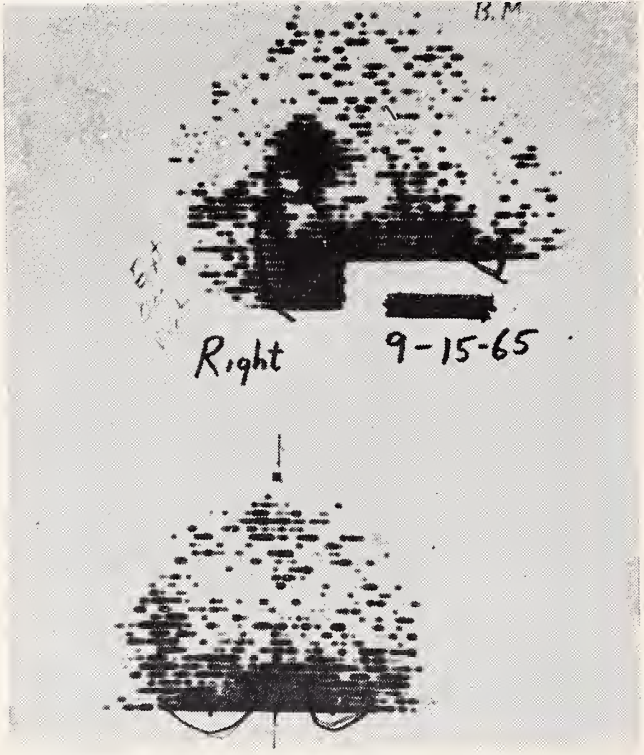


Figure 12. Brain scan: metastatic carcinoma of the breast on ipsilateral side, well seen in lateral view; poor lateralization on anterior view is due to position in posterior parietal lobe.

Fig. 12. Escandigrama Cerebral. Carcinoma mamario con metástasis ipsilaterales, demostradas en este escandigrama lateral; estas metástasis no se aprecian bien en el Escandigrama anterior debido a que las metástasis estan localizadas en la porción posterior del lóbulo parietal.

Case No. 12: A markedly enlarged heart was found on routine chest X-ray in a 66-year-old man; fluoroscopy showed it to be relatively quiet. After an attempted pericardiocentesis was unsuccessful, the possibility of marked dilation was considered. However, a scan (Fig. 14) showed a marked discrepancy between the intracardiac blood pool and the cardiac outline. A second attempt at pericardiocentesis was successful, a large quantity of bloody fluid was removed, and the patient was later started on treatment for tuberculous pericarditis.

Our laboratory has recently started placental localization, the accuracy of which exceeds 95% in most series.[7]

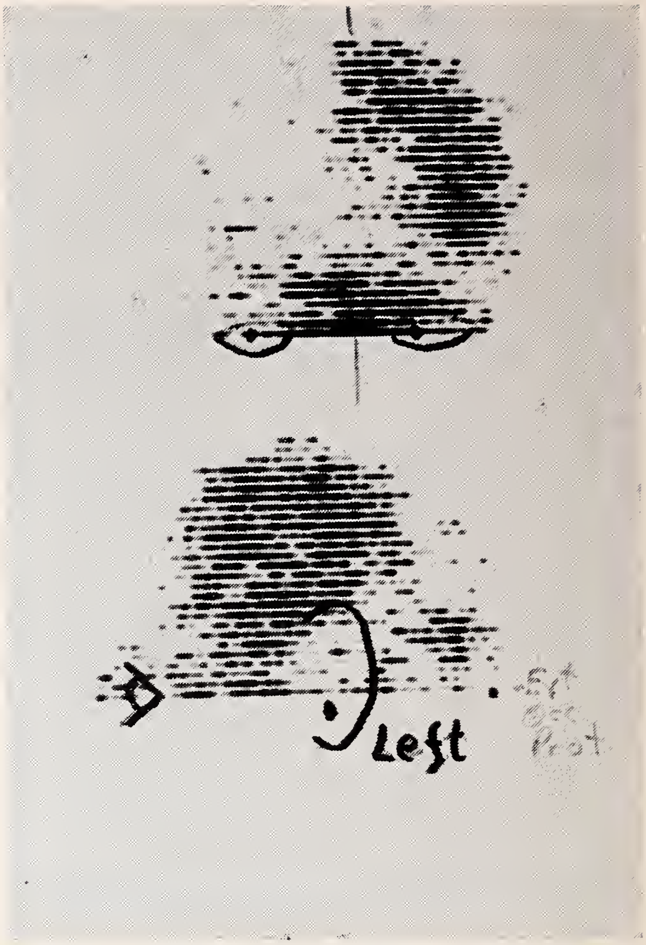
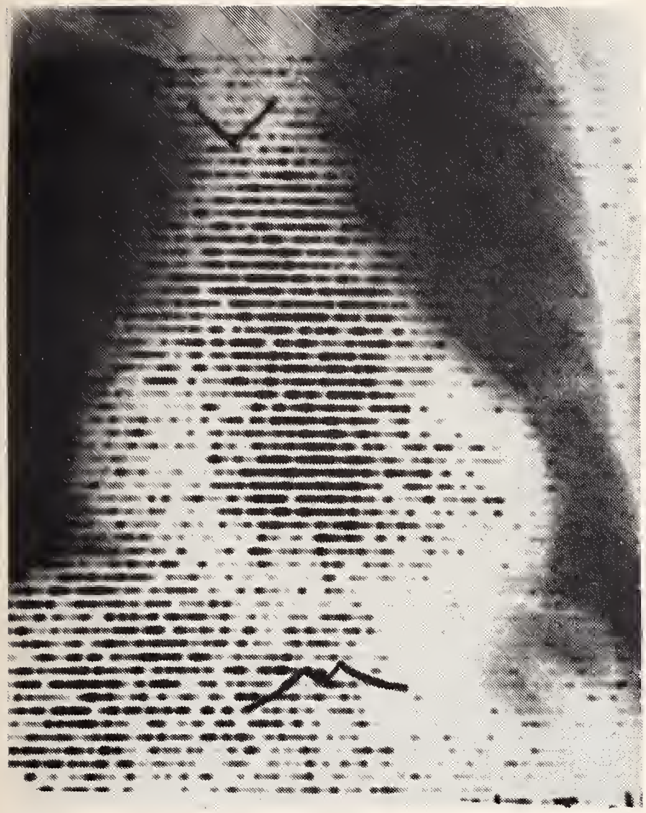


Figure 13. Brain scan: left subdural hematoma. Note general "haziness" of left side on anterior view, absence of normal landmarks on left lateral.

Fig. 13. Escandigrama Cerebral. Hematoma subdural izquierdo; notese la opacidad generalizada en el lado izquierdo en el Escandigrama anterior; en una vista lateral izquierda ausencia de estructuras normales.

Case No. 11: Enfermo de 60 años de edad, referido de Navojoa, Sonora, con el antecedente de trauma cranial dos semanas antes, seguido de dolores de cabeza y movimientos torpes del lado derecho. El Escandigrama (Fig. 13) demostró una hemorragia subdural izquierda la cual fue confirmada al tiempo de la operación.

El Escandigrama Cerebral tien eun 80%-90% de certeza en series grandes de tumores,[1-6] ésto es comparable con la neumoencefalografía o la arteriografía. El Escandigrama no requiere anestesia, hospitalización, ni acarrea morbilidad alguna y se puede hacer en casos de duda o en casos en tratamiento. Escandigrama con isotopos, electro-encefalografía y punción lumbar, son los pasos que se sigen en el Tucson Medical Center en la mayoría de enfermos que se sospeche tengan tumor cerebral, dejando los medios más peligrosos en reserva.



Figures 14. Heart scan superimposed on PA roentgenogram. Note wide "empty space" between endocardium and pericardium representing myocardium and effusion.

Fig. 14. Escandigrama Cardiaco superinpuesto a una radiografía de torax, se puede apreciar el espacio tan grande entre el endocardio y pericardio, representando el miocardio y un derrame.

Case No. 13: A 29-year-old woman was hospitalized at 26 weeks gestation with vaginal bleeding. The placenta was demonstrated in the upper left portion of the uterus, and placenta previa was thereby ruled out (Fig. 15).

Case No. 14: This 36-year-old woman was scanned close to term because of bleeding. The hourglass shape of the placenta on scan (Fig. 16) suggested twins; at delivery it was found to be a bilobed single placenta. The case is presented as a demonstration of the accuracy of the scan.

The radiation dose to the fetus by this technique, using IHSA in very small doses, is less than 1% of that received in roentgenographic placentography. Indeed, none of the procedures described will subject the patient to as much total body radiation as will a barium enema.

La escansión de el volumen sanguineo dentro del corazón usando IHSA; puede distinguir derrames pericardiacos de una dilatación cardiaca, sin sujetar al paciente a los peligros propios de una angiografía.

Caso No. 12: En una radiografía de admisión, se encontró este corazón enorme en un enfermo de 66 años; a la fluoroscopía el corazón se veia casi sin movimiento. Se intento una punción percardiaca sin exito alguno, la posibilidad de una dilatación cardiaca fue considerada. Sin embargo se hizo un Escandigrama (Fig. 14A) el cual demostró una gran diferencia entre la colección sanguinea intracardiaca y la silueta cardiaca. Se repitió la punción pericardiaca y esta vez se evacuó una gran cantidad de un liquido sero-sanguinolento. El enfermo tenía una pericarditis tuberculosa la cual fue tratada poco tiempo después. Recientemente hemos comenzadó a tratar de localizar la placenta por este medio, con una certeza, como en casi todas la series de más de un 95%.[7]

Figure 15. Placental scan. The uterus is outlined Heavy uptake superior to the uterus is liver; placenta in upper left uterus.

Fig. 15. Escandigrama Placentario. Placenta esta implantada en la parte superior izquierda del utero, la densidad derecha es el hígado.

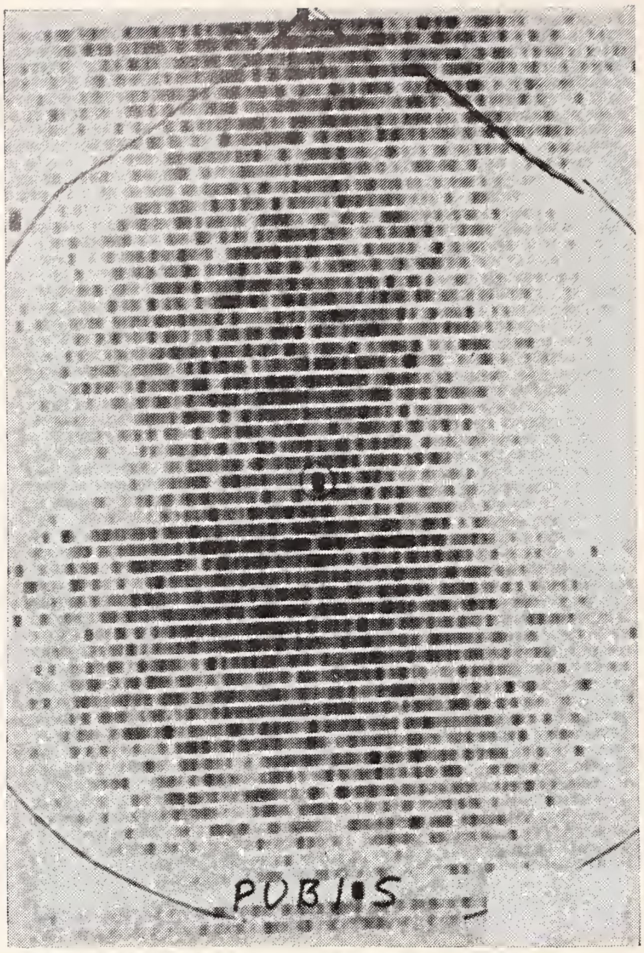


Figure 16. Placental scan, showing bilobed placenta.

Fig. 16. Escandigrama Placentario, mostrando una placente bilobulada.

The cases demonstrated have ben encountered in less than a year at Tucson Medical Center, a 443-bed community hospital. During the first year of scanning, we have done 248 brain scans, 162 thyroid scans, and 76 liver scans. With the aid of a few of these, I have attempted to demonstrate the usefulness of radioisotope scanning in the diagnosis and therapy of conditions encountered in the daily practice of medicine.

Caso No. 13: Enferma de 29 años de edad fue admitida al hospital en su 26 ava semana de embarazo con hemorragia vaginal. La placenta fue localizada en la porción superior izquierda del utero descartando así la posibilidad de una placenta previa (Fig. 15).

Caso No. 14: Enferma de 36 años de edad, casi a termino con hemorragia vaginal. El Escandigrama demostró esta placenta con forma de reloj de arena (Fig. 16) que sugirió la posibilidad de embarazo gemelar. En el parto se demostró que era una placenta bilobulada. Se presenta este caso para demonstrar la precisión del Escandigrama.

La radioación que recibe el feto es menos del 1% de la que recibe durante una placentografía. Sin lugar a duda en ninguno de los procedimientos mencionados, el enfermo recibe tanta radiación como la que recibe durante un enema de bario.

Los casos presentados aqui han sido coleccionados en el Tucson Medical Center en menos de un año, un hospital de 443 camas. Durante el año pasado se han hecho 248 Escandigrama Cerebrales, 162 Tiroideos y 76 Hepáticos. Con la ayuda de unos cuantos de ellos, se ha tratado de demonstrar los beneficios tan grandes que ofrece el Escandigrama de radioisotopos en el diagnóstico y terapeútica de situaciones que a diario se presentan en el ejercicio de la Medicina.

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Breech Delivery

(A Review of Experience at Two Private Hospitals)

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Robert Hasse, M.D.**

The infant mortality associated with breech delivery is far greater than it should be. Everyone doing obstetrics should re-evaluate this common obstetrical problem.

This paper is a review of singleton breech deliveries performed at the two large private hospitals in Phoenix, Arizona. The staff of the two institutions is open and therefore the same physicians work in both hospitals. Since the experience at neither hospital had been reviewed for a considerable period of time it was felt that a paper on this would be of value.

Dr. Litzenberg once said, "any doctor who says he isn't afraid of a breech or never had any trouble with a breech was either someone who didn't do any work in obstetrics or was an outright liar and he could choose his own category."[1] This statement is still true today, although it may be somewhat modified due to more frequent resort to cesarean section.

Dr. Edward Hall reviewed over 6,000 breech births in the March 1965 issue of the American

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Journal of Obstetrics and Gynecology and noted an incidence of prematurity of 24.4%. He also noted that the perinatal loss was due to prematurity. Twenty four percent of babies present as breech between the 13th and 20th week and this decreases to 8% by the 28th to 30th weeks of pregnancy.[2]

Prematurity is about four times, hydramnios three times, and prolapse of the umbilical cord many times that of cephalic presentations. Detailed analysis indicates that congenital defects play a more important role in high perinatal mortality than hitherto suspected.

Dr. Hall feels that pitocin stimulation of labor is probably all right if there are no complicating factors.[2] However, the high perinatal mortality associated with oxytocin induction of labor would indicate the inadvisability of this procedure.

Today our efforts are directed toward reducing the fetal and neonatal deaths associated with breech presentation. To that end it has been suggested that breech presentations be converted to cephalic by external version. Others have advocated cesarian section for all breech; still others describe cesarean section as the method of choice in delivery of primiparas whose babies are in the breech position. It is obvious that all of these suggestions imply that, were the baby not presenting by the breech, the mortality rate would be materially reduced.

Most physicians would agree that x-ray pelvimetry is indicated in all primiparous breeches and in many multiparas. Analgesia should be given but most people would administer the sedative in small doses. As far as possible, labor and delivery should be allowed to progress spontaneously. Local anesthesia for the perineum and adequate perineotomy should be done early enough to be of value. Inhalation anesthesia is preferred if there is any delay in delivery. Decomposition and extraction may be used if the cervix is fully dilated, the pelvis adequate, and the fetus is not large. Cesarean section is the method of choice in patients with contracted or borderline pelvis, large infants, poor obstetric history, primigravida over age 35, placenta previa, most cases of uterine dysfunction, select cases of premature placental separation, prolapse of cord and prolonged rupture of membranes.

There was a total of 239 breech deliveries at Good Samaritan Hospital and 188 at St. Joseph's Hospital. The first table reviews the patients according to age groups, race, the number of primiparas, consultation, and inductions. The next shows that breech is not a common cause for prolonged labor and classifies the patients as to the type of breech presentation. There were 6 complete breeches at Good Samaritan Hospital and no stillbirths or neonatal deaths. The indication for the total extraction was not stated in the record. At St. Joseph's Hospital there were 16 complete breeches. The indication for the breech extraction is not stated in the chart. There were 6 cesarean sections—four because of feto-pelvic disproportion, one for previous C-section and one for lack of progress.

Table I
TOTAL BREECH DELIVERIES

	Hospital	
	Good Samaritan	St. Joseph's
Total deliveries	239	188
Under age 30	199	137
Age 30 - 40	35	43
Over age 40	5	8
White	214	182
Negro	7	3
Indian	18	3
Primiparas	89	60
Consultations	15	19
Inductions	4	11

Table II

	Hospital	
	Good Samaritan	St. Joseph's
First stage over 24 hours	3	2
Second stage over 2 hours	2	2
Inertia	3	6

Table III
COMPLETE BREECHES

	Hospital	
	Good Samaritan	St. Joseph's
Complete breeches	6	16
Assisted deliveries	5	6
Total extraction	1	1
Spontaneous deliveries		3
Cesarean sections		6

At Good Samaritan Hospital there were 25 single footling deliveries of which three were total extractions—one because of a prolapsed cord at complete dilitation. Despite complete dilitation there was some cervical dystocia and the baby was born with Erb's palsy. Another patient developed a nuchal arm and although there was some difficulty with the delivery the infant is apparently normal. The third extraction was in a primipara and the indication is not evident. There was one version and extraction in a

35-year-old para 8 who developed a transverse lie with foot and cord presenting. The delivery was difficult and baby suffered a dislocated hip. One patient was delivered by cesarean section during labor because of persistent high station and uneffaced and undilated cervix. There were 19 single footling breeches at St. Joseph's Hospital of which two were total extractions; one because of a cord prolapsed late in the second stage following spontaneous amniotomy. The extraction was fairly easy and the baby developed normally. The indication for the other extraction is not apparent from the chart.

Table IV
SINGLE FOOTLING BREECHES

	Hospital	
	Good Samaritan	St. Joseph's
Single footling breeches	25	19
Total extractions	3	2
Assisted deliveries	16	13
Version and extraction	1	0
Spontaneous deliveries	0	4
Cesarean section	1	
Unclassified deliveries	4	

At Good Samaritan Hospital there were 51 double footling breeches, among which there were six total extractions. One was a stillbirth at 21 weeks in which the cord prolapsed during the first stage, another term patient had a cord prolapsed during the second stage. Three premature infants developed cord prolapse and two survived, although one infant developed hemolytic anemia and was hospitalized for two months. The sixth extraction was a multipara who developed intrapartum bleeding of about 1000 cc. and an extraction was probably life saving to the infant.

Table V
DOUBLE FOOTLING BREECHES

	Hospital	
	Good Samaritan	St. Joseph's
Double footling breeches	51	42
Total extractions	6	3
Assisted deliveries	38	31
Spontaneous deliveries	1	8
Cesarean sections	1	
Not classified	5	

There were 38 assisted double footlings, ten of which were premature. One eight pound infant died shortly after a difficult assisted delivery in which there was marked dystocia. Another patient developed partial abruptio placenta at 36 weeks, went into hard labor, and delivered a 4 pound 9 ounce infant that developed normally.

A cesarean section was performed because the patient failed to progress after 27 hours labor, with membranes ruptured 15 hours. Despite stimulation with I.V. pitocin, the presenting part remained unengaged and it was felt that section was the safest method of delivery for the infant. Five patients were not classified as to the type of delivery.

At St. Joseph's Hospital there were 42 double footling presentations, among which there were three total extractions. A primip progressed to 9 cm., developed a nuchal arm during the total extraction. The baby weighed 6 pounds and 12 ounces and had a probable brachial nerve injury. An extraction was utilized to deliver a 7 month premature infant and a macerated fetus. There were 31 assisted double footling breeches, five of which were premature. One, a 7 pound 8 ounce infant, was delivered with forceps following a labor that was apparently not too difficult. The baby died a few hours later and post mortem examination revealed there was marked subarachnoid hemorrhage associated with a tear in the right lateral sinus and probable skull fracture. Another patient, a para 2, had an apparently uneventful labor and delivery, however, the 6 pound 6 ounce infant died just prior to delivery. Post mortem revealed subdural and supra and subtentorial hemorrhage.

At Good Samaritan Hospital there were 135 frank breeches. One primipara was delivered of a normal infant by total extraction. There were 118 assisted breeches among which were 19 prematures. One patient developed a cord prolapse at 26 weeks and although fetus survived labor, it died shortly after delivery of prematurity and atalectasis. Another patient developed a tear in the right lower segment of the uterus following a rather difficult delivery. Because of hemorrhage into the broad ligament, a total hysterectomy was performed and the right ureter ligated 2 cm. from the bladder. There was one placenta previa and 2 abruptio placentas between 24 and 26 weeks and all three infants died. There were 7 cesarean sections. Six patients were sectioned because of persistent high station and lack of progress, and one of these had a didelphic uterus. The seventh was a primipara with preeclampsia that was induced with I.V. pitocin and failed to progress after 7 cm. and a -1 station. There were 6 frank breeches that could not be classified as to the type of delivery. Five were full term deliveries with normal infants.

There were 20 patients who could not be classified as to the type of breech presentation. Fourteen were full term normal infants. One patient had severe pre-eclampsia and hepatitis, and was induced with I.V. pitocin and amniotomy following which a shoulder presentation developed. At near complete dilitation an internal version and extraction was performed with the delivery of a stillborn infant.

Table VI
FRANK BREECHES

	Hospital	
	Good Samaritan	St. Joseph's
Frank Breeches	135	103
Total extractions	1	5
Assisted deliveries	118	65
Premature infants	19	20
Spontaneous deliveries	3	28
Cesarean section	7	5
Unclassified deliveries	6	0
Piper forceps	14	26
Unclassified as to presentation	20	8

At St. Joseph's Hospital there were 103 frank breeches among which were five total extractions. One was in a 36-year-old para 2 who had a suspected placenta previa. The patient dilated to 5 - 6 cm. with presenting part at O station. The fetus developed a marked bradycardia with irregularities. No anesthesia was immediately available. Vaginal bleeding continued and the fetal heart tone disappeared. The cervix was manually dilated and a total extraction was performed. An Apgar 1 infant was delivered that weighed 7 pounds 9 ounces and lived only a short time. Intracranial bleeding was suspected. The second patient, a para 2, in premature labor at 24 weeks, had a total extraction and baby expired shortly after delivery, probably of hyaline membrane disease and prematurity. Three primiparas had total extractions and the indication was not evident from the records. There were 65 assisted frank breech deliveries of which 11 were premature. Interestingly all but one of these premature infants survived. One infant weighed five and one half pounds, survived a fractured clavicle and suspected subdural hemotomas. There were 5 cesarean sections. One was a primipara who had a bicornuate uterus and was sectioned approximately 18 hours after spontaneous amniotomy; two patients were sectioned because of suspected feto-pelvic disproportion and persistent high station; in one of these an emergency cesarean section was performed because of fetal distress. Two primiparas had elective sections because of feto-pelvic disproportion.

Eight patients were unclassified as to presentation. Five were cesarean sections. One 37 year primipara had an elective section because of previous abdominal perineal resection and a functioning jejunostomy. Two patients had elective sections because of feto-pelvic disproportion, and one of these patients had a previous baby die during a difficult labor. There were 2 transverse lies. One, a para 5, dilated to 7 cm. The cord was seen through the intact membrane. An amniotomy and a breech extraction were performed and moderate difficulty was met in delivering the infant due to cervical dystocia. An Apgar 3, 4 pound and 7 ounce infant was delivered that only lived a short time. The other transverse lie was a 35 week macerated fetus delivered by Braxton Hicks extraction.

Table VII summarizes the findings. The incidence of breech deliveries at St. Joseph's Hospital was 2.21% and at Good Samaritan Hospital was 2.67%. There was a total of 47 prematures at Good Samaritan Hospital with 26 fetal deaths.

Table VII

	Hospital	
	Good Samaritan	St. Joseph's
Breech deliveries	239	188
Incidence of breech deliveries	2.67%	2.21%
Premature deliveries	47	39
Neonatal deaths	11	9
Stillbirths	15	9
Survived	21	21
Cesarean sections	9	16
Section rate	4.14%	8.5%

Fifteen were stillbirths and 11 neonatal. At St. Joseph's Hospital there were 39 prematures and 18 fetal deaths, nine of which were stillbirths and nine were neonatal. At Good Samaritan the incidence of prematurity in this series was 19% and at St. Joseph's 20.9%. It is interesting that although there were 135 frank breeches at Good Samaritan and 103 at St. Joseph's there were only 11 and 9 fetal deaths associated with prematurity, indicating that the largest percentage of deaths occurred in the other groups. At St. Joseph's, Piper forceps were utilized in 27% of the patients and only 15% at Good Samaritan. There were 3 term deaths at St. Joseph's Hospital. Two were associated with double footling presentation. The third term fetal death was a suspected placenta previa, frank breech that developed marked bradycardia with irregularities, and was treated by immediate Braxton Hicks version because anesthesia was not available. At Good Samaritan there were 2 term fetal deaths and both were associated with difficult assisted double footling breech deliveries caused by cervical dystocia. At Good Samaritan Hospital there were 4 congenital anomalies — one polycystic and horseshoe kidney associated with atresia of the urethra, a tetralogy of Fallot, a combination spina bifida and meningocele, and one biliary tract atresia associated with prematurity. At St. Joseph's Hospital there were 4 congenital anomalies — 2 achondroplasias, one meningocele and cleft palate. At Good Samaritan Hospital there were 2 non-fatal injuries — one Erb's palsy following a version and extraction of a transverse lie. At St. Joseph's Hospital one infant suffered a probable brachial nerve injury following a total extraction of a double footling. Another assisted frank breech suffered a fractured clavicle and a subdural hematoma.

The gross mortality rate was 11.7% at Good Samaritan and 11.2% at St. Joseph's. Tables VIII, IX, and X review patients according to whether the delivery was performed by a specialist, general pracitioner, or resident intern.

Table VIII

	Hospital	
	Good Samaritan	St. Joseph's
OB-GYN deliveries	115	117
Total extractions	4	10
Either assisted or spontaneous	103	96
Cesarean sections	3	9
Unclassified	5	
Consultations	4	12
Versions and extractions		2

Table IX

	Hospital	
	Good Samaritan	St. Joseph's
General practitioner deliveries	97	58
Total extractions	2	1
Either assisted or spontaneous	84	54
Cesarean sections	3	2
Unclassified deliveries	11	1
Consultations	7	6

Table X

	Hospital	
	Good Samaritan	St. Joseph's
Ward deliveries	25	11
Total extractions	3	
Assisted or spontaneous deliveries	15	10
Cesarean sections	3	1
Version and extraction	2	
Unclassified	2	
Consultation	4	1

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2. Hall, J. Edward; Kohl, S. G.; O'Brien, F.; Ginsberg, M.: Am. J. of Obst. and Gynec. 91: 665, 1965.

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by

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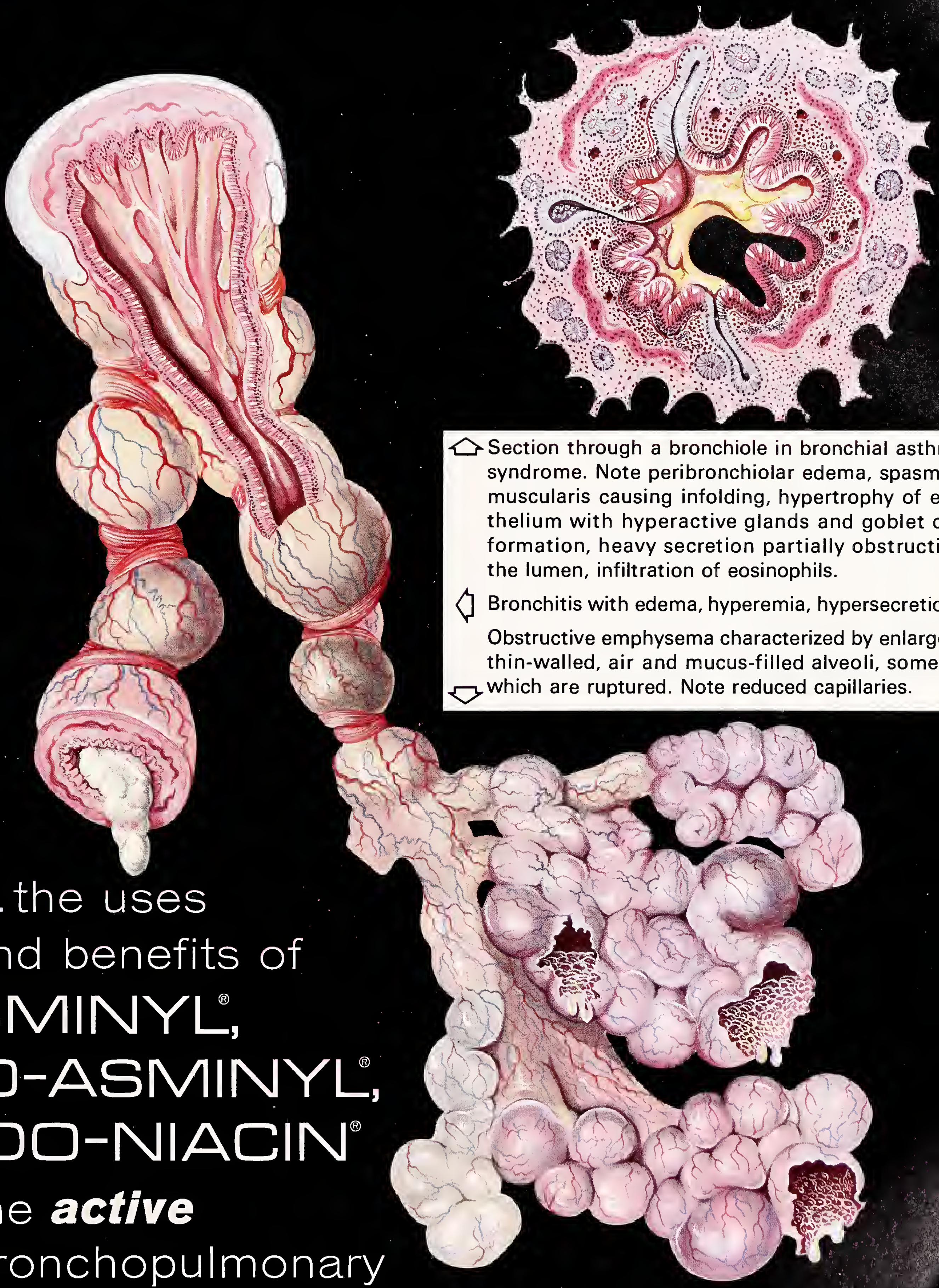
Features of ASTHMA, BRONCHITIS, EMPHYSEMA



Section through a bronchiole in bronchial asthma syndrome. Note peribronchiolar edema, spasm of muscularis causing infolding, hypertrophy of epithelium with hyperactive glands and goblet cell formation, heavy secretion partially obstructing the lumen, infiltration of eosinophils.

Bronchitis with edema, hyperemia, hypersecretion.

Obstructive emphysema characterized by enlarged, thin-walled, air and mucus-filled alveoli, some of which are ruptured. Note reduced capillaries.

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Phenobarbital Sodium....... 8 mg.
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Ephedrine Sulfate........... 32 mg.
Theophylline Hydrous.......130 mg.

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Theophylline Hydrous.......130 mg.
*In outer coating for sublingual absorption.

INDICATIONS: For the immediate and sustained relief of bronchospasm associated with bronchial asthma, pulmonary emphysema, and acute or chronic bronchitis.

DOSAGE: One tablet held sublingually for 5 minutes, then swallowed. Repeat in 3 or 4 hours as needed for relief of symptoms. Not more than 5 tablets in 24 hours.

HOW SUPPLIED: Tablets in bottles o 100, 500, and 1,000. List No. 6048C S. C. Brown.

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SIDE EFFECTS: Serious adverse reactions are rare. Occasional nervousness, palpitations, tachycardia, insomnia, and central nervous system excitation have been observed. Contraindicated in hypertension, hyperthyroidism, cardiac disease, and diabetes mellitus.

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Goodman, L. S., and Gilman, A.: *The Pharmacological Basis of Therapeutics,* New York, The Macmillan Company, 1965, 3rd ed., p. 815.

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Niacinamide Hydroiodide . . . 25 mg.

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DOSAGE: The oral dose for adults is two tablets after meals taken with a glass of water. For children over eight years, one tablet after meals with water. The dosage should be individualized according to the needs of the patient on long-term therapy.

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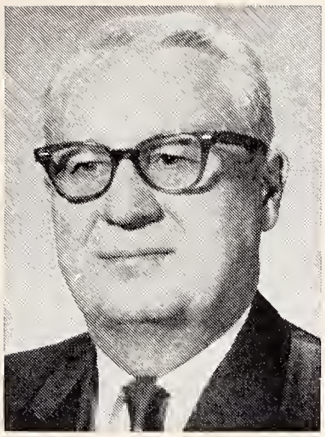


Dr. Dysterheft

The 1967 and 116th Annual Convention of the American Medical Association at Atlantic City is history. At this historical, tradition filled strip of eastern sea coast, a site for the leisure and pleasure bound, with its numerous aged domiciles, boardwalks, confined narrow streets, and something less than western friendliness of its working populace, was this year's meeting place for the physicians of fifty states and territories to debate and re-define the issues facing medicine today. The foggy, rainy weather during these days prompted, and contributed, certainly, to a greater participation and attendance at scientific and business meetings, to the extent that all sessions were well attended. The galleries of the House of Delegates were full, eagerly following the debate of issues by the delegates, where a wide divergence of views existed on issues; nevertheless, they were solved in true democratic fashion. Reference committee hearings were all well attended in each of its ten on-going, simultaneous groups. As always, the scientific and public assembly programs retained their customary popularity, eagerly participated in by physicians and guests.

A highlight and impressive event of the convention was the President's Inauguration, open to delegates, physicians, guests and public alike during the midportion of the convention festivity. The 122nd President of the American Medical Association, Dr. Milford O. Rouse of Dallas, Texas, was flanked on the podium by the immediate Past Presidents, the Board of Directors and the state society presidents of the fifty states and four territories, who listened attentively to the precise, articulate delivery of his message, "To Whom Much is Given."

To summarize his thirty minute speech with appropriate excerpts might preclude the intent of its total message. Aside from the usual friendly, fatherly advice, one detects in it more than a shred of change from previous AMA policies toward the continuing erosion on the private enterprise and individual initiative of a physician; on the consequences of the on-going events and hardening attitude of government, federal and otherwise, on the system of medicine which has contributed to making our country great; on the importance of an enlightened, informed laity para-medical and medical citizenry, whose efforts in scientific, social and economic fields have as their primary objective the promotion and betterment of the science and art of medicine and the improvement of the public's health.

In the election as President-Elect of Dr. Dwight Wilbur and the unprecedented re-election to the Board of Trustees of Dr. Edward Annis along with the present Board and President Rouse, the AMA has served notice of pursuing a policy with Government involvement of "stop, look and listen," obviously not unlike that of the 90th Congress when it comes to public health care legislation.

It was a great show! I wouldn't have missed it for anything.

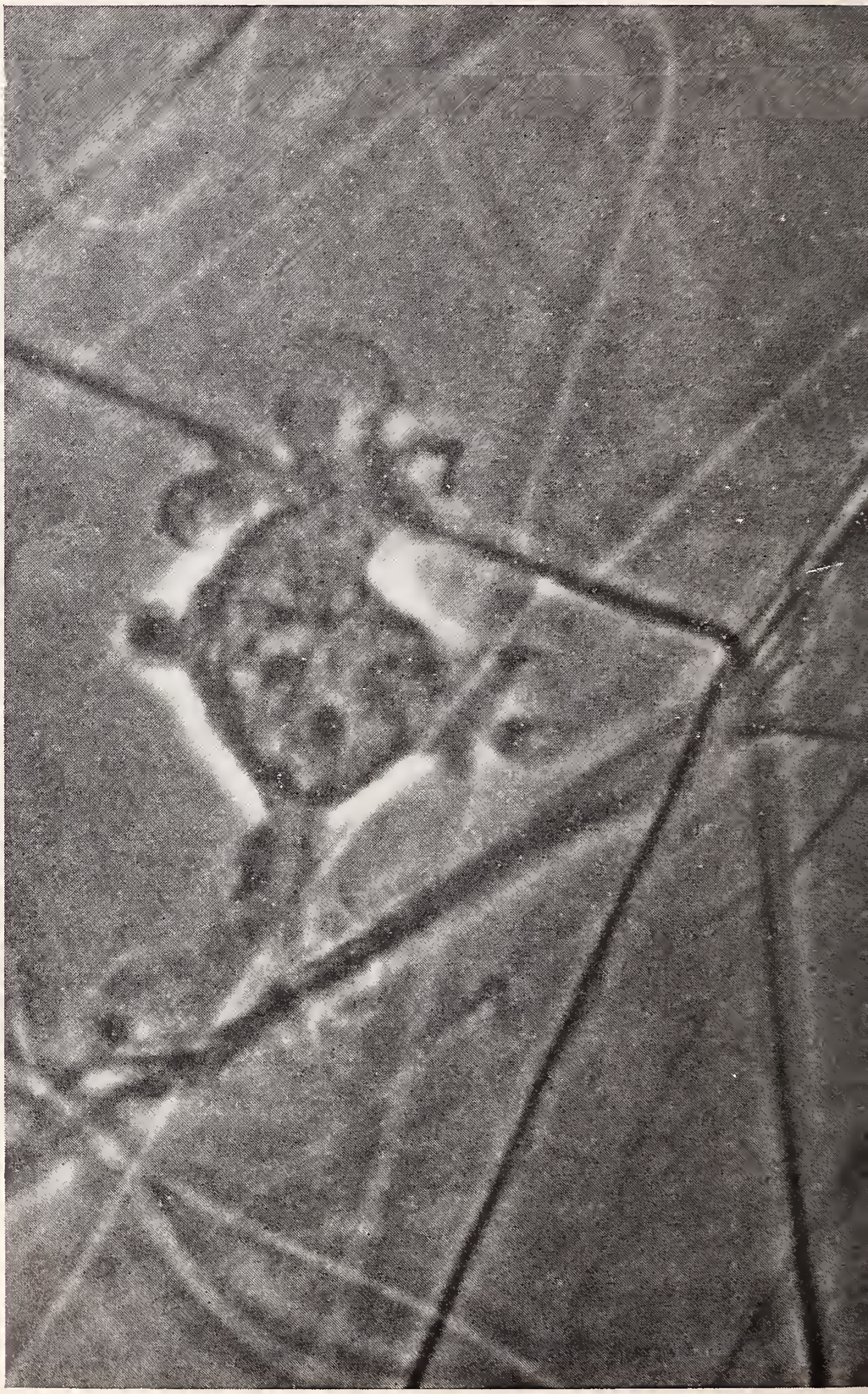
Arnold H. Dysterheft, M.D.
President

INFLAMMATION:
A cellular fight for life

A SYNTEX REPORT based on recently developed hypotheses about topical corticosteroids, including the cellular theories of inflammation by Thomas F. Dougherty, Ph.D., University of Utah.

You are looking at a fibroblast fighting for life. This cell—one of the most common found in connective tissue—has literally been poisoned by cytotoxins released from other cells that have ruptured. Soon, if the abnormal activity of this fibroblast does not cease, it, too, will rupture and die—one more casualty in the inflammatory wave of destruction precipitated by injury.

Until a short time ago no one had ever witnessed such a scene at the cellular level. Now, through advanced cinemicrographic techniques, it is possible to view and photograph the inflammatory process as produced experimentally in living animal tissue. This method permits new insight into the mechanism of inflammation and the role of corticosteroids in therapeutic management. Equally important, these techniques shed new light on factors that may make one corticosteroid more effective than another—factors that can be correlated with other chemical, biologic, and clinical parameters.

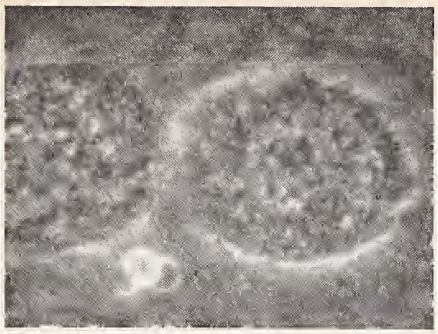


Visual evidence of how corticosteroids influence the inflammatory reaction

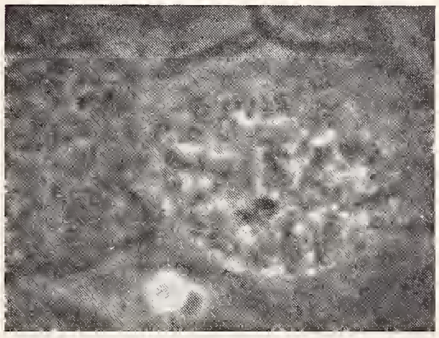
Working with phase-contrast cinemicrography on living animal tissue, Doctors Thomas F. Dougherty and David Berliner of the University of Utah College of Medicine have actually filmed cellular events that occur during the inflammatory reaction. This remarkable study* and additional work by these investigators, as well as by others, have established a new theoretical biologic basis for the antiinflammatory effect of the corticosteroids. (It must be noted that other theories, such as the lysosome or so-called "suicide bag" theory, have been postulated, although it is quite likely that there are more similarities than differences among the various theoretical models.)

The inflammatory wave of destruction

In this investigation an injurious injection of gelatin is used to set off an inflammatory reaction in living mouse tissue. What follows is a wave of destructive cellular activity that comprises the inflammatory response to injury. Mast cells (which contain heparin, serotonin and histamine) take up water, swell and rupture, releasing their contents, which are toxic outside the mast cell wall. These toxins, in turn, cause disintegration of other cells (such as fibroblasts) and the release of additional toxic material. Capillaries, too, take up water and leak unformed blood elements, causing edema. And polymorphonuclears, lymphocytes and perithelial cells invade the inflamed site. As a result of all these changes, the cellular environment reaches a state of turmoil.



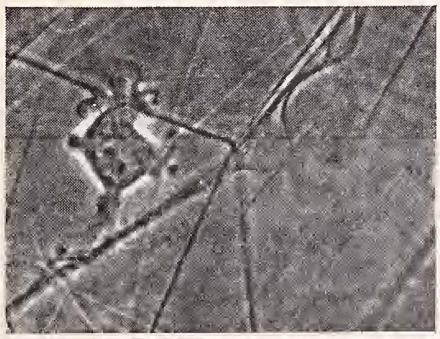
Phase-contrast microscopy showing mast cell before injury.



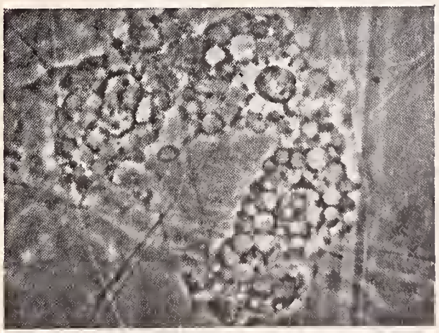
Mast cell (after injury) has broken up and released cytotoxins.

How corticosteroids change the picture

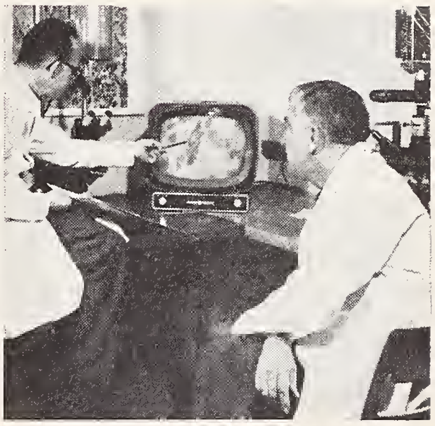
Corticosteroids appear to virtually stop the abnormal cellular activity that constitutes the inflammatory reaction. This permits the body's natural resources to clear up the inflamed area and repair the damaged tissue. This interpretation is supported by the fact that when the injurious gelatin solution is injected simultaneously with a corticosteroid – Synalar (fluocinolone acetonide) – the inflammatory pattern simply does not develop.



Fibroblast in high state of activity, much distorted.



Mast cells showing effects of corticosteroid action: cells are normal in size, shape and activity.



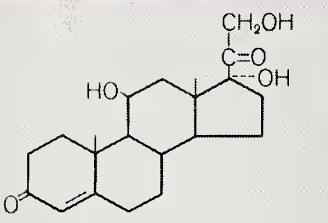
In summarizing his study Doctor Dougherty states: "...we also feel this work may explain why one corticosteroid helps a patient more rapidly and effectively than another. If it does, it is because one corticosteroid is the fastest, most effective inhibitor of the series of inflammatory events at the tissue level."

**A New View of Corticosteroid Action in Inflammatory Dermatoses,* a film based on this study, is now available from your Syntex representative.

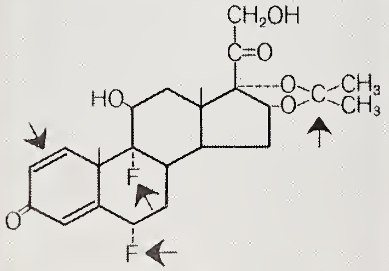
See last page for contraindications, precautions, side effects and dosage.

How advances in chemical design have achieved greater steroid potency

The chemical modification of corticosteroid molecules from the advent of hydrocortisone to the development of Synalar (fluocinolone acetonide) is a prime example of how biochemists can "design" to increase therapeutic activity and minimize undesirable side actions. Below, for example, we see the important changes that were made in reference to the hydrocortisone molecule to produce fluocinolone acetonide, one of the most active of all topical corticosteroids. As a result, a 0.01% preparation of Synalar (fluocinolone acetonide) has been reported to do the work of a 1% hydrocortisone product containing 100 times more cortiscosteroid. And it can often do it more effectively.



Hydrocortisone

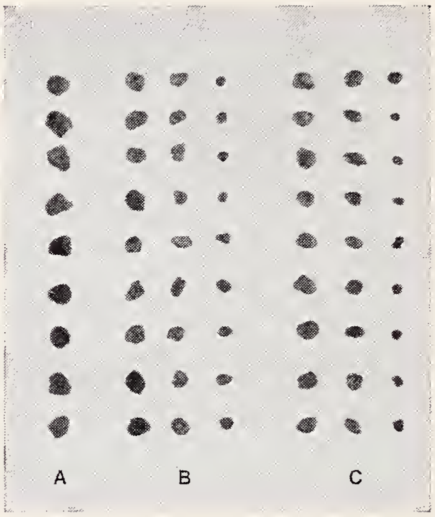


Fluocinolone Acetonide (Synalar)

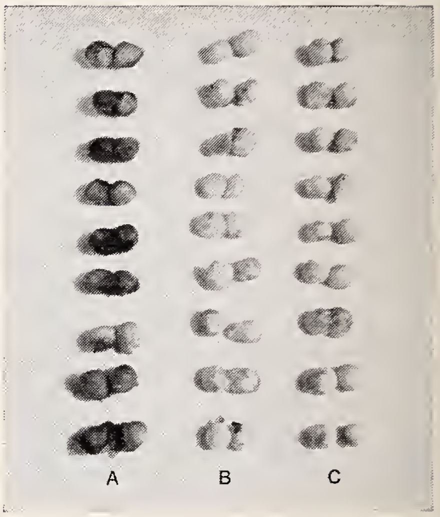
- ☐ *a double bond between carbons 1 and 2*
- ☐ *fluorine substitutions at* both *the 6-α, and the 9-α positions*
- ☐ *the addition of the acetonide at the 16-α, 17-α positions, thus providing one of the most potent topical corticosteroids available.*

How bioassay tests are used to "predict" therapeutic potential

Biologic assays are another tool used by researchers to help establish the relative activity of corticosteroids. To date no single method of assaying corticosteroid activity has emerged as the ideal "yardstick" for predicting therapeutic potential. Taken together, however, these methods have proved useful. When such tests are run on various corticosteroids, a definite order of corticosteroid activity becomes evident. Compounds with the highest order of activity may be expected to merit clinical trial to establish their high therapeutic potential. When assayed by these methods, fluocinolone acetonide (Synalar) emerges as one of the most active topical corticosteroids, milligram for milligram, available for clinical application today.



THE THYMUS INVOLUTION ASSAY[1-4] is run on adrenalectomized rats. The sizes of the glands are measured, and the degree of involution caused by the steroid is determined as an indication of its potency. In the above photo, the comparative involution of thymus glands achieved with hydrocortisone and Synalar (fluocinolone acetonide) is shown. Untreated controls (A) show normal size. Group B – injected with 1, 2 and 4 mg. of hydrocortisone – show progressively smaller thymuses as does Group C – injected with fluocinolone acetonide – but with only 1/500th the dose of hydrocortisone.



THE ANTIGRANULOMA ASSAY[1-4] also utilizes adrenalectomized rats. Granulomas are induced by subcutaneous implantation of cotton pellets on either side of the thorax. The degree of granuloma inhibition achieved by a steroid reflects its potency. The above photo shows the inhibition of granuloma formation achieved with hydrocortisone and Synalar (fluocinolone acetonide). Untreated controls (A) show large, red granulomas adhering to the pellets. Group B, receiving hydrocortisone and Group C, receiving fluocinolone acetonide, show little, if any, granuloma formation. Fluocinolone acetonide produced the same effect as hydrocortisone with only 1/500th the dose. This assay, as well as the thymus involution assay, measures systemic rather than topical corticosteroid activity. Nevertheless, results by these methods correlate well with other assays and with the milligram potencies of topical steroids in current clinical use.

Worldwide clinical experience confirms the predictable therapeutic potential of Synalar

It is particularly gratifying that the promise of the advanced chemical design and high order of bioassay activity of Synalar (fluocinolone acetonide) has been confirmed by widespread therapeutic application. Indeed, the impressive clinical response rate of Synalar has been documented in no fewer than 232 papers from 22 countries.

Representative Clinical Results with Synalar*

Efficacy Documented in over 4,000 Patients

Condition	Number of Publications	Number of Patients	Significant Improvement†
Contact Dermatitis	27	750	713
Eczematous Dermatitis	21	472	409
Seborrheic Dermatitis	18	442	426
Atopic Dermatitis	24	460	426
Psoriasis	36	1,699	1,510
Neurodermatitis	18	351	324
Total	144	4,174	3,808

*Complete bibliography on request.

†Expressed by the authors as excellent, very good, good, complete remission of inflammation, etc.

PRESCRIBING INFORMATION
For initiation of therapy: Cream 0.025%, 5 and 15 Gm. tubes, 425 Gm. jars; *for emollient effect:* Ointment 0.025%, 15 Gm. tubes; *for maintenance therapy:* Cream 0.01%, 15 and 45 Gm. tubes, 120 Gm. jars; *for intertriginous or hairy sites:* Solution 0.01%, 20 cc. and 60 cc. plastic squeeze bottles; *for infected inflammatory dermatoses:* Neo-Synalar® Cream (0.025% fluocinolone acetonide, neomycin sulfate, equivalent to 0.35% neomycin base), 5 and 15 Gm. tubes.
CONTRAINDICATIONS: Tuberculous, fungal, and most viral lesions of the skin, (including herpes simplex, vaccinia, and varicella). Not for ophthalmic use. Contraindicated in individuals with a history of hypersensitivity to any of the components. PRECAUTIONS: Synalar preparations are virtually nonsensitizing and nonirritating. However, the solution may produce burning or stinging when applied to denuded or fissured areas. In some patients with dry lesions, the solution may increase dryness, scaling or itching. While topical steroids have not been reported to have an adverse effect on pregnancy, the safety of their use on pregnant females has not absolutely been established. Therefore, they should not be used extensively on pregnant patients, in large amounts, or for prolonged periods of time. Prolonged use of any antibiotic may result in overgrowth of nonsusceptible organisms; if this occurs, appropriate therapy should be instituted. When severe local infection or systemic infection exists, the use of systemic antibiotics should be considered, based on susceptibility testing. SIDE EFFECTS: Side effects are not ordinarily encountered with topically applied corticosteroids. As with all drugs, however, a few patients may react unfavorably to Synalar under certain conditions. The neomycin in Neo-Synalar Cream rarely produces allergic reactions.

REFERENCES: 1. Lerner, L. J., Bianchi, A., Turkheimer, A. R., Singer, F. M., and Borman, A.: Anti-inflammatory steroids: potency, duration and modification of activities. Ann NY Acad Sci 116:1071 (Aug. 27) 1964. 2. Idem: Comparison of anti-granuloma, thymolytic and glucocorticoid activities of anti-inflammatory steroids. Proc Soc Exp Biol Med 116:385 (June) 1964. 3. Ringler, A.: Activities of adrenocorticosteroids in experimental animals and man, in Dorfman, R. I.: Methods of hormone research, New York, Academic Press, 1964. vol. III. pp. 234-280. 4. Gubersky, V. R.: To be published.

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co–op.er.a.tion, co.ö̈p.er.a.tion, co.op.ēr.a.tion (kō–op'er–ā'shen), n. 1. a co–operating; joint effort the benefits of which are shared by all members.

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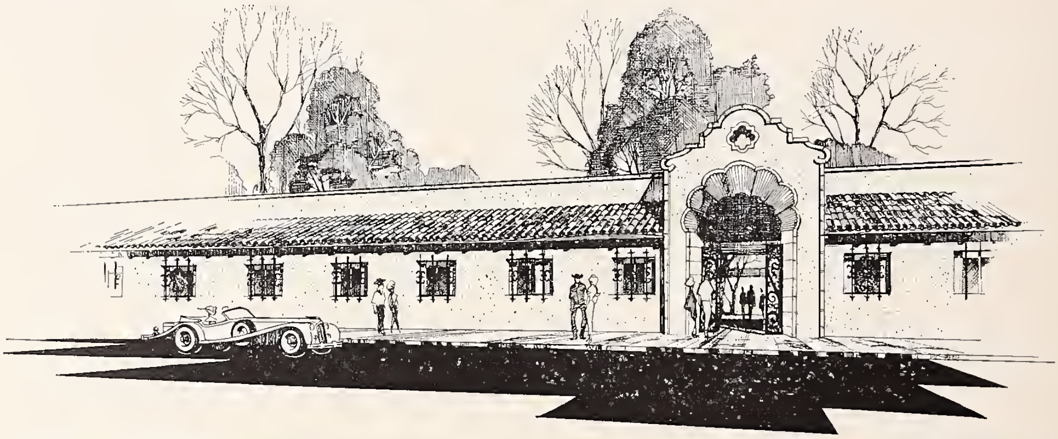

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The First Faculty Meeting

Recently, a precedent of some sorts was set — we held the first meeting of the entire faculty of the new College of Medicine. Since the individual faculty members had not yet moved to Tucson and were themselves still scattered all over the United States, we enlisted the support of a private foundation so that it would be possible for us to completely take over a local guest ranch and invite all of the faculty to live together for approximately four days.

The meeting began Thursday afternoon, May 18, when the Chairmen of the Departments of Anatomy, Biochemistry, Physiology, Pathology, Microbiology, Medicine, the Library, the Multidiscipline Laboratories, and the Division of Animal Resources arrived. Most of these men were meeting each other for the first time and it was not only very interesting to watch them slide into their roles as an executive planning body, but it was also gratifying and reassuring to note the facility with which they joined forces in their efforts. It was almost as if they had worked with one another before.

So that everyone might start on an equivalent footing, we spent most of the first day reviewing the historical sequence of events that culminated in the establishment of the Medical School in Arizona. We also reviewed the specific steps that the planning team had taken to prepare for the arrival of the school on the campus of the University. This included, of course, a discussion of the interest and support that the new College of Medicine had received from the practicing members of the medical profession, the citizens of Arizona, and from numerous divisions of the University itself. We also reviewed, in some detail, the state system within which the University operates and the administrative superstructure of the University itself.

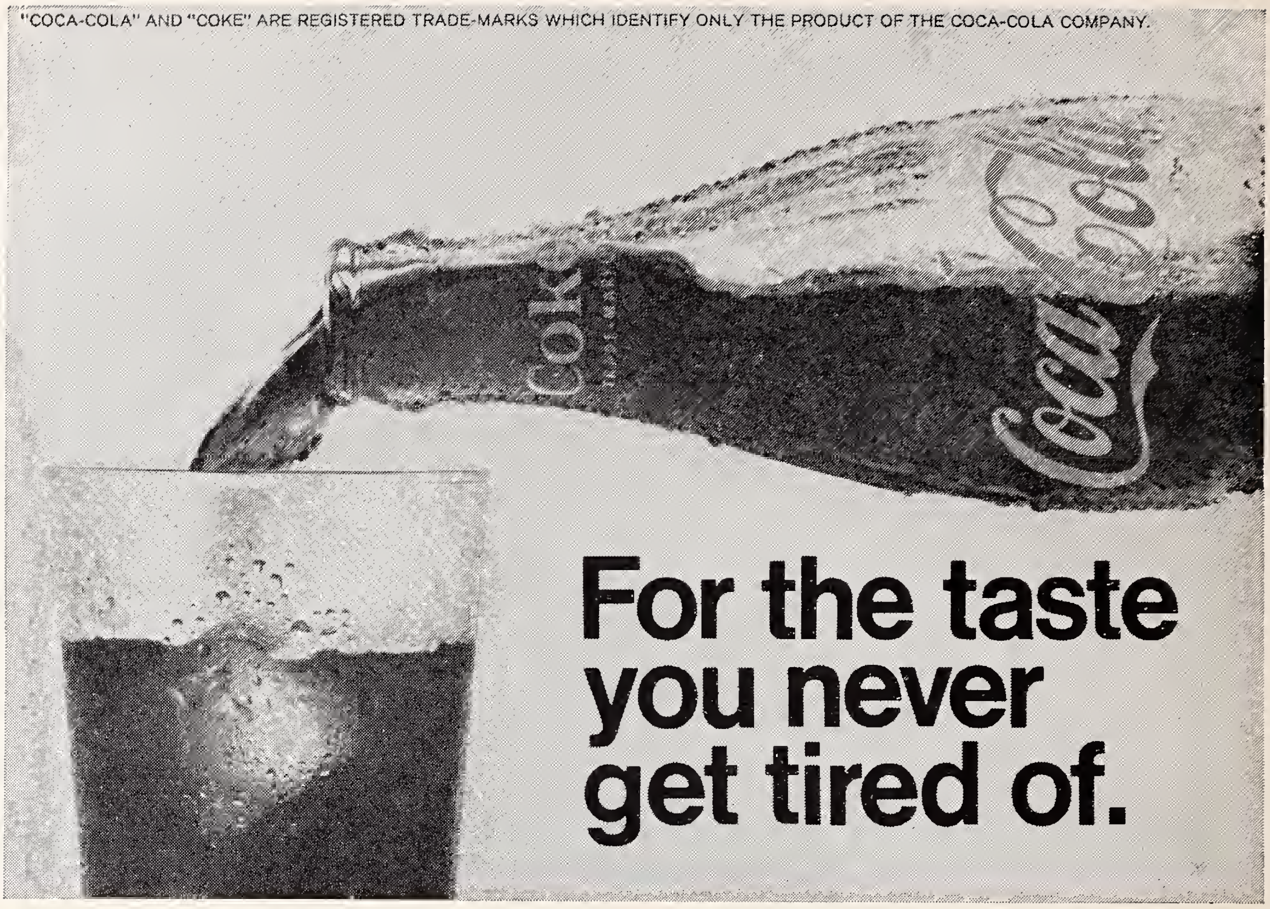
With this background it was then possible to proceed with a discussion of the procedures, rules, and regulations under which our faculty will be operating. This latter proved to be particularly interesting inasmuch as those who were present represented at least ten different campuses and, therefore, ten different types of working conditions. This was the second point at which many of us were enormously reassured because it soon became apparent that the assembled department heads sensed a degree of operating freedom on the campus of the University of Arizona that would permit them maximum opportunity to express themselves within their own disciplines.

We also spent a substantial portion of our time, in the first twenty-four hours of this faculty meeting, exploring the process of budget-making, and the policies and customs of the campus. Thus, the first twenty-four hours of the meeting was pretty much confined to administrative topics of particular interest to the department chairmen.

One day later, the remaining members of the faculty came in from their various points of origin throughout the country. Fortunately, our attendance was perfect. Here again, as the younger members of the new faculty arrived, it was reassuring to note the high level of compatibility and enthusiasm that pervaded their deliberations. There is little doubt, of course, that the relaxed atmosphere at the ranch, the sub-committee meetings around the swimming pool — the bridal path or the golf course — and plenary sessions coinciding with the social hour, contributed heavily to the success of the meeting, all of which persisted right up to the time of adjournment on the following Sunday afternoon.

Ultimately, the critical question which faced the new faculty was the establishment of a curriculum. Although no one expected that the faculty might come together for the first time and solve all of the problems of a new curriculum, their discussions reached a point at which critical principles could be developed. They are good principles and they will make a sound framework upon which the specifics of the curriculum will be developed when the faculty arrives later in the summer. These principles will be reported in the September issue of ARIZONA MEDICINE.

Monte DuVal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Iatrogenics, With A Grain Of Salt

William B. McGrath, M.D.

"He said that you said that I said that he said . . . ." This is a snare, and it had better be sidestepped.

Some physicians do not get along well with their consultants. They are under some kind of compulsion to put the consultant on the defensive. They will hold him to account, take him to task for any out-of-context statement he is quoted as having made. A specialist, for example, may have unequivocally agreed with the referring doctor that a woman is not suffering from organic disease. The patient's husband will ask the specialist, "Have you thought about cancer as a possibility?" The off-hand reply will be something to the effect that one always takes into consideration the possibility of cancer. Husband and wife will now go back and report to the family doctor that the specialist thinks the woman may have cancer!

Selectively divisive misrepresentations like this need not provoke antagonisms between physicians. Rather they should bring back to our attention the pervasive and peculiarly human need of illness. Physical pain is simply not as unbearable as mental anguish. This displacement is graphically illustrated in the movie, **Hawaii**, when the grief-stricken widower deliberately knocks out his own eye and teeth.

A corollary truism is this: one had rather be sick, one had rather die, than hurt somebody who doesn't deserve it. A wife who cannot respond to the love of a decent and devoted man will wish desperately for a medical "explanation," and so will her husband; and the urgency of the wish must surely influence their interpretation of anything the doctor says or fails to say. A man may have to decide whether to abandon his wife and children to pursue some seemingly imperative destiny of his own. He may be secretly disappointed when told that his electrocardiogram is normal. He may lead the cardiologist to concede that a negative EKG is not absolute proof of a healthy heart. And again the examiner will be dismayed to learn that the patient has distorted his honest but unacceptable reassurance. You see, if this man can imagine that he has a heart condition he may be able to resign himself to stay with his family. And he will not lose face in any issue of courage when he has to turn back from the alternate course.

Iatrogenic disease usually isn't iatrogenic at all. What appears to be iatrogenic disease should be a signal to inquire more closely into the patient's need of illness as an escape from, or attempt to resolve, some hidden and hurtful conflict.

There are times when such inquiry, such probing, must be held in abeyance. The art of medicine – if you can't help at least don't harm – leaves room for the physician's wisdom and tact. Intuition may warn that a patient (or a marriage) requires some autosuggested or scapegoat illness for survival. The physician ought not be criticized for temporary reluctance to chop off the fingers with which his patient is clinging to some necessary illusion.

Lastly every doctor has encountered a few constitutionally untruthful patients: "He only spent five minutes with me and barely tapped my reflexes." A need of attention or a morbid wish to cause trouble will dispose some people to put the doctor in a bad light or to insinuate that the doctor has made disparaging remarks about his colleagues. The physician may be unaware or quite unable to protect himself against the damage such persons do to his reputation and to his relationship to other doctors.

But the mature physician retains a wholesome skepticism when any inappropriate statement is attributed to a reputable colleague. He seldom finds it necessary to interrogate, "Did you say that I said that he said – ?" And in taking for granted the integrity of his colleague he should be assured that the colleague will assume his own.

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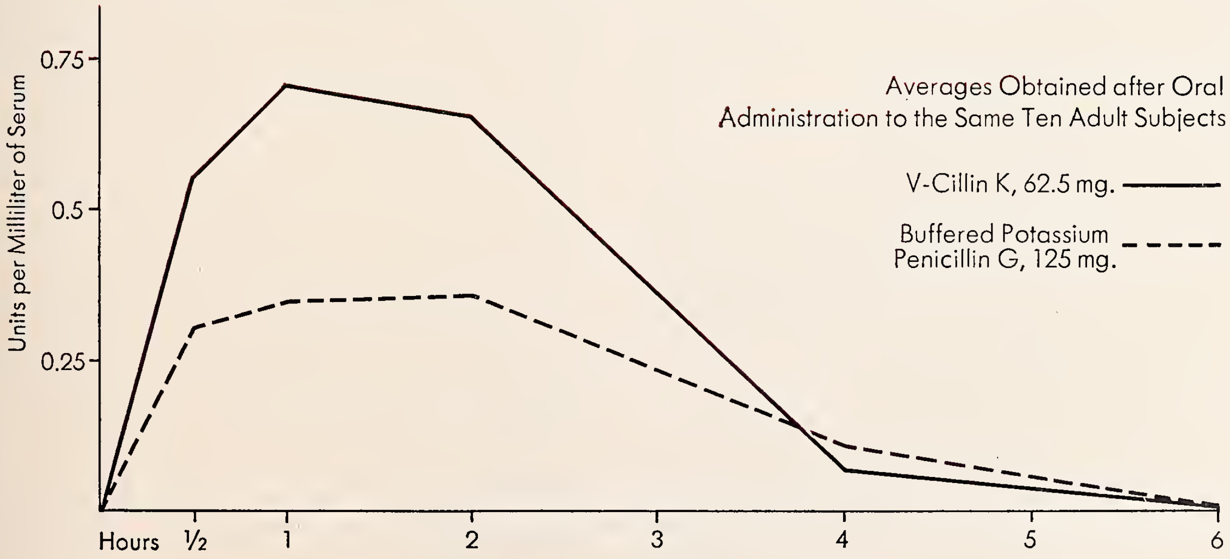
Penicillin G	0.02	0.005-1.6	0.005	0.002-0.2	0.02	0.01-0.1
Methicillin	1.6	0.4-6.3	0.2	0.1-0.4	0.2	0.1-1.6
Oxacillin	0.4	0.1-3.1	0.04	0.02-0.4	0.1	0.04-0.8
Cloxacillin	0.2	0.2-0.8	0.1	0.1-0.8	—	—
Nafcillin	0.4	0.2-0.8	0.04	0.02-0.1	0.02	0.02-0.2
Ampicillin	0.2	0.1-0.8	0.02	0.01-0.04	0.02	0.01-0.04

Adapted from Klein, J. O., and Finland, M.: New England J. Med.,269:1019, 1963.

with high blood levels, even in the presence of food



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V-Cillin K, Pediatric, is an oral solution of clinically proved V-Cillin K in teaspoon dosage form. When mixed as directed, each 5 cc. (approximately one teaspoonful) will contain 125 mg. (200,000 units) phenoxymethyl penicillin as the potassium salt.

Indications: V-Cillin K has been shown to be effective in the treatment of streptococcus, pneumococcus, and gonococcus infections as well as infections caused by sensitive strains of staphylococci. It may be used for the prophylaxis of streptococcus infections in patients with a history of rheumatic fever and for the prevention of bacterial endocarditis after tonsillectomy and tooth extraction in those patients with a history of rheumatic fever or congenital heart disease.

Contraindication: V-Cillin K should not be administered to a patient with a history of penicillin hypersensitivity.

Warnings: In rare instances, the use of penicillin may cause acute anaphylaxis which may prove fatal unless promptly controlled. This type of reaction appears more frequently in patients with a history of sensitivity reactions to penicillin and in those with bronchial asthma or other allergies. Resuscitative drugs should be readily available for emergency administration. These include epinephrine and pressor drugs (as well as oxygen for inhalation) for relief of immediate allergic manifestations and antihistamines and corticosteroids for delayed effects.

Precautions: V-Cillin K should be used cautiously, if at all, in a patient with a strongly positive history of allergy.

In prolonged therapy with penicillin, and particularly with hig parenteral dosage schedules, frequent evaluation of the renal an hematopoietic systems is recommended.

In suspected staphylococcus infections, proper laboratory studie (including sensitivity tests) should be performed.

The use of penicillin may be associated with the overgrowth c pencillin-insensitive organisms. In such cases, its administration shoul be discontinued, and appropriate measures should be taken.

Adverse Reactions: Although serious allergic reactions are much les common with administration of oral penicillin than with intramuscula forms, manifestations of penicillin allergy may occur.

Penicillin is a substance of low toxicity, but it does possess a signif cant index of sensitization. The following hypersensitivity reaction associated with the use of penicillin have been reported: skin rashe ranging from maculopapular eruptions to exfoliative dermatitis; urt caria; and reactions resembling serum sickness, including chills, fever edema, arthralgia, and prostration. Severe and often fatal anaphylaxi has occurred (see Warnings). Hemolytic anemia, leukopenia, thrombocytopenia, and nephropathy are rarely observed side-effects an are usually associated with high parenteral dosage.

Administration and Dosage: For Tablets V-Cillin K and for V-Cillin K Pediatric, the usual dosage ranges from 125 mg. (200,000 units) thre times a day to 500 mg. (800,000 units) every four hours. For infants the daily dosage may be 50 mg. per Kg. of body weight divided int three doses.

Beta-hemolytic streptococcus infections without associated bacteremia may be treated with 200,000 to 400,0000 units three times day. Therapy should be continued for a minimum of ten days to preven development of rheumatic fever and/or other serious complications Dosage for routine streptococcus prophylaxis in patients with a histor of rheumatic fever or congenital heart disease may be 200,000 unit once or twice daily. When such patients undergo tonsillectomy, toot extraction, or other minor surgery, the prophylactic dose should b 500,000 units every six hours given two days prior to surgery and fo two days postoperatively. If oral medication is not feasible on the da of surgery, parenteral therapy should be considered. Mild to mode ately severe pneumococcus pneumonia has been treated effectivel with 250 mg. every six hours.

In staphylococcus infections, 400,000 units or more should be give every six to eight hours in conjunction with indicated surgical procedures.

For gonorrhea in males, 500 mg. (800,000 units) every four hours fo three doses may be employed; in females, 500 mg. every four hour for six doses are recommended. Refractory infections generally respon to a second treatment three to four days following completion of th first. Treatment of gonorrhea with severe complications should b individualized, with prolonged and intensive treatment. Patients with suspected lesion of syphilis should have a dark-field examination be fore receiving penicillin and monthly serologic tests for a minimum o three months.

How Supplied: Tablets V-Cillin K, U.S.P., 125 mg. (200,000 units), i bottles of 50 and 100; and 250 mg. (400,0000 units) and 500 mg (800,000 units), in bottles of 24 and 100.

V-Cillin K, Pediatric, for Oral Solution, 125 mg. (200,000 units) pe 5 cc. of solution, in 40, 80, and 150-cc.-size packages. [032067

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They Know When To Call The Police

Donald F. Schaller, M.D.

Physicians who man the hospital emergency rooms in Phoenix, Ariz., do not have any difficulty in deciding whether they should or should not report patients who come in under questionable circumstances — they have clear-cut guidelines approved by hospital authorities and police.

The too-blond, forty-plus wife of a state politician was brought to the hospital in a coma. Her near-hysterical daughter, who had come along in the ambulance, managed to explain that Daddy was out of town, that Mother hadn't answered when she called, and that she'd found Mother unconscious and "all the pills missing from this bottle."

The intern on duty in the emergency department of Good Samaritan Hospital, Phoenix, Ariz., handled that case without incident – and without fear of medicolegal repercussions. A call to the druggist showed that the prescription was for meprobamate tablets; the young doctor treated the patient quickly and effectively. Then, to determine whether or not he should notify the police, he merely referred to a recent addition to the hospital policy book – eight pages of detailed instructions on what to report to the authorities, covering every possibility ranging from rat bite to rape.

A few months ago, the same intern might have routinely reported the attempted suicide to the police. And if he had, he might well have had to face a lawsuit for invading the lady's privacy and damaging her husband's political career. In Arizona, it's not a crime to attempt suicide, and a physician who treats an apparent attempt must therefore hold his knowledge of the patient's act as priviliged information.

The guidelines the intern referred to grew out of a long-felt need for better communication between our emergency department physicians and the police. As medical director of the emergency service, I felt a heavy responsibility. Unwary house officers were being duped into prescribing narcotics for addicts feigning illness. Medical evidence that might have convicted child beaters and other criminals was being improperly collected or not collected at all. Different shifts of doctors were handling similar cases in different and confusing ways. The police were running blind-alley investigations on official re-

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Medical director of emergency services,
Good Samaritan Hospital, Phoenix, Ariz.

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ports that never should have been made, while an occasional flagrant offense went unreported and uninvestigated.

I looked for help from the other Phoenix hospitals. But their situation, I soon learned, was no better than ours. So, I called the police and asked for help in drawing up some guidelines for our doctors.

After several consultations with Deputy Chief of Police H. E. Neal, I worked up a rough document covering all the police-report situations likely to confront our doctors. (To cover reports to the coroner and the health department as well as the police, I also consulted with Dr. Daniel J. Condon, the county medical examiner, and Dr. Lad R. Mezera of the county health department.) Then I went to the hospital attorney for his advice. Were the guidelines acceptable from a legal standpoint? How could I improve them? Distinguishing between reports required by law and those simply in the interest of expedience, he recommended several changes to protect the hospital and the E.R. doctors from possible embarrassment or suit.

The final policy document gained the approval of the Maricopa County Medical Society and the Phoenix regional council of the Arizona Hospital Association. Chief of Police Paul E. Blubaum recommended it as a standard guide for all the hospitals in the city, and all hospitals with active emergency departments soon adopted it. And, though the guidelines apply specifically to Phoenix and Arizona law, the principles in them and the procedures we used in drawing them up could be applied anywhere.

What about situations when the doctor is unable to relate a case at hand to the written policy? The policy book advises him to call a designated officer at police headquarters and informally discuss the circumstances. Together they decide whether a formal report of the details should be made.

That provision is especially useful in handling addicts suspected of feigning illness to obtain drugs. For example, an attractive young woman used to present herself at Phoenix emergency departments with "an excruciating headache." She was a visitor from out of state, she'd say, and then offer a letter detailing a long course of treatment for head injuries sustained in a severe accident, ending with the statement that her headaches responded only to Dilaudid 2 mg. The doctor who saw her recently at Good Samaritan suspected that the letter — which her physician "had neglected to sign" — was a phony. He called a narcotics officer as designated in the policy book. The lady didn't get the Dilaudid she sought; she got instead an interview with the officer.

In any of the following situations, it should be clearly understood that the City Police should be notified.

¶ *Auto accident injuries.* [Report treatment of] any person who has been injured in an automobile accident *which has not previously been reported to the police.* (If there is any doubt as to whether or not the police have been called, check with the desk officer at the Phoenix Police Department.)

¶ *Mistreatment claims.* [Report treatment of] any person who claims that he has been mistreated in any way by any member of the Police Department.

¶ *Poisonings.* [Report details] where there is, in the opinion of the examining physician, evidence of abuse or an attempt by a second party to administer the toxicant to the patient.

¶ *Narcotics violations.* Great care should be exercised where a suspicion of abuse of drugs exists. Because of the possibility of a violation of privileged information any report to the police should be made only with explicit permission of the attending physician. Such permission should be noted and signed by the attending physician on emergency record of the patient. It might be wise to call the desk sergeant and discuss the details of this case . . . prior to making an official report.

¶ *Illegal ventures resulting in injury.* [Report] matters involving any patient who appears to have been involved in any illegal venture which was the cause of injury. These include the following where an arrest or complaint might be made: fights resulting in injury, stab and gunshot wounds, assault victims, possible burglary suspects who may have been cut by glass.

¶ *Suicide.* All cases of successful suicide are reportable to the Phoenix Police Department (and coroner) for investigation of possible foul play. The attending physician treating any patient in which self-destruction may have been attempted by any means may want to make a report to the Phoenix City Police Department if there is any suspicion of foul play. Care should be exercised by the Emergency Department personnel not to violate privileged information without the explicit permission of the attending physician. Such permission shall be noted and signed by the attending physician on the emergency record of the patient.

¶ *Rape.* Examination for possible rape or criminal assault should never be done even when requested by law enforcement officers without a properly witnessed written consent of the patient; or, if the patient is a minor, of a parent or legal guardian or [a person standing] in loco parentis; or a court order.

Evidence of rape or criminal assault must be reported at once to the Phoenix Police Department even if there is no evidence of penetration or genitalia admission. Findings indicative of trauma to the external genitalia are usually considered as evidence of criminal assault.

¶ *Criminal abortion.* Suspected criminal abortion cases should be reported to local law enforcement officers, when the history obtained from the patient and entered on the patient's chart indicates that it is a case of criminal abortion. Care should be exercised to avoid unfounded reports, and police authorities should not be called merely because a pregnant woman comes into the hospital with vaginal bleeding or other signs which might indicate a spontaneous abortion.

¶ *Child neglect, abuse, or immoral association.* The Arizona revised statutes state that any physician, including a hospital intern or resident physician, whose examination of any minor (person under the age of 16 years) discloses evidence of injury or physical neglect not explained by the available medical history as being accidental in nature, shall immediately report or cause reports to be made of such information to a municipal or county peace officer. Such reports shall be made forthwith via telephone or in person and should be followed by a written report. Such reports shall include:

> Names and addresses of the minor and his parents or person or persons having custody of such minor. The minor's age, nature and extent of injuries or physical neglect, including any evidence of previous injuries or physical neglect.
>
> Any information that the physician believes might be helpful in establishing the cause of injury or physical neglect.

Prior to examination of a minor the proper consent must be obtained from a natural parent, a legal guardian, the husband of a married female over 16 or the wife of a married male over 18, or [a person standing] in loco parentis.

It would be appropriate in a case of reported injury to a child to proceed without consent with as much of an examination as might be necessary to determine whether prompt care and treatment must be given.

¶ *Injuries on city property.* [Report treatment of] any person who is injured in any manner on city property where there may be a question as to the liability of the city in the cause of the accident.

¶ *Injuries to city employes.* [Report treatment of] city employes who are injured in line (of duty to] the police [and send] a follow-up report to the City Physician.

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Material submitted for publication in ARIZONA MEDICINE should conform to the following policies:

1. Manuscripts, including references or bibliography, should be typewritten, double-spaced, on one side of the paper only, and the original and a carbon enclosed.
2. Be guided by the general rules of medical writing as followed by the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.
3. Although the Editors try to catch inaccuracies, the ultimate responsibility is the author's.
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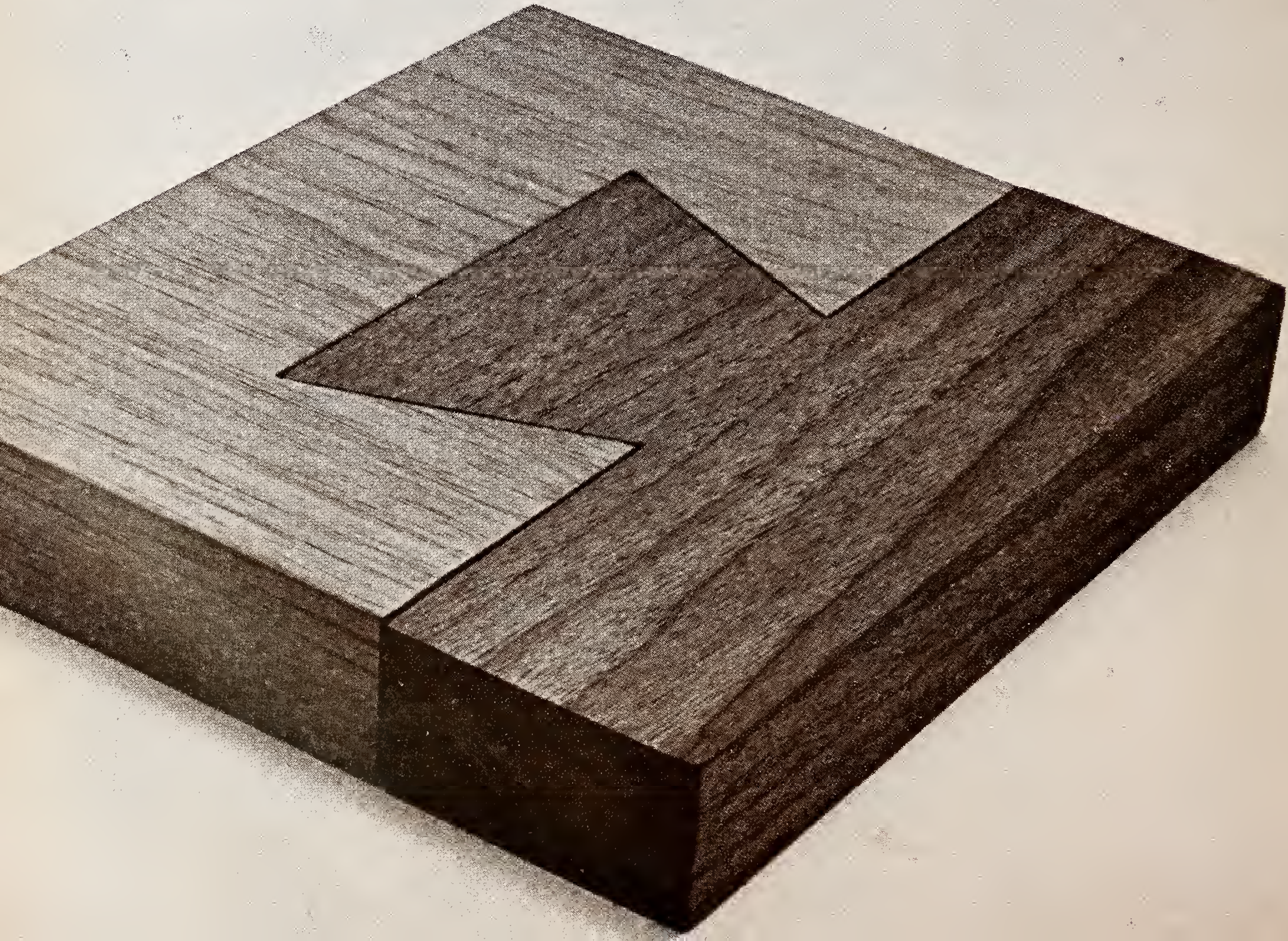

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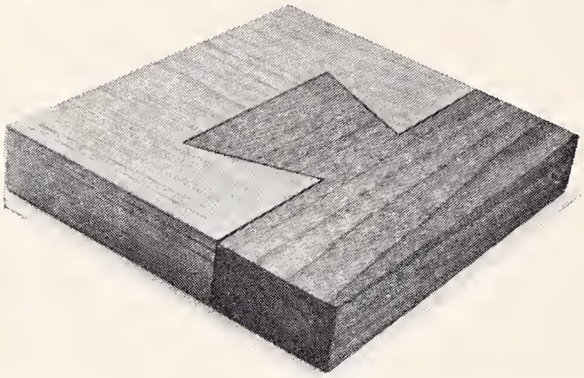

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Severe mental depression has appeared in a small percentage of patients, primarily in a dosage above 1 mg daily. When the drug is discontinued, depression usually disappears, but hospitalization and shock therapy are sometimes required.

Caution: Withdraw reserpine 2 weeks before surgery, if possible. For emergency surgical procedures, give vagal blocking agents parenterally to prevent or reverse hypotension and/or bradycardia.

Because reserpine may increase gastric secretion of hydrochloric acid, use cautiously in patients with peptic ulcer.

Use cautiously with digitalis, quinidine, or guanethidine. Not recommended for aortic insufficiency.

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Contraindictions: Oliguria, renal shutdown, progressive hepatic disease, and allergy to thiazides.

Warnings: Stenosis, hemorrhage, and ulceration of the small bowel have occurred with coated potassium tablets. Discontinue such medication when used with Esidrix if gastrointestinal disturbances arise.

Pay special attention to electrolyte balance of patients with severe renal or hepatic insufficiency. In patients with cirrhosis and ascites, watch for symptoms of impending hepatic coma. Thiazides may decrease glucose tolerance; use cautiously in diabetics. Hyperuricemia may occur but is readily reversed by a uricosuric agent. Lowering of blood pressure may sometimes result in nitrogen retention, particularly in patients with impaired renal function. Dosage titration is necessary in such patients.

Precautions: Watch for signs of fluid or electrolyte imbalance. Further electrolyte depletion may cause hypochloremic alkalosis and hypokalemia. Since the latter may precipitate digitalis intoxication, watch carefully patients who are taking digitalis or its glycosides or those with cardiac arrhythmias. In severe hypokalemia, large oral or intravenous doses of potassium may be required.

A few infants born of mothers who received thiazides during pregnancy have shown bone marrow depression with thrombocytopenia. Hydrochlorothiazide decreases responsiveness to exogenous norepinephrine and increases responsiveness to tubocurarine. Hypotensive episodes under anesthesia have been observed in some patients receiving thiazides.

Side Effects: In addition to those above, nausea, anorexia, headache, restlessness, constipation, dizziness, paresthesias, fatigue, increased sweating, cramps in arms and legs, diarrhea, abdominal pain. Rare reactions: purpura with or without thrombocytopenia, skin rash, photosensitivity, urticaria. Sometimes associated with hydrochlorothiazide: leukopenia, agranulocytosis, aplastic anemia, pancreatitis, jaundice, necrotizing vasculitis.

DOSAGE
Average dosage is 2 *Tablets #2* daily. For patients requiring less hydrochlorothiazide, substitute *Tablets #1.* For maintenance, reduce dosage to lowest effective level. When necessary, more potent antihypertensive agents may be added gradually in reduced dosages.

SUPPLIED
Tablets #2 (light orange), each containing 0.1 mg reserpine and 50 mg hydrochlorothiazide; bottles of 100 and 1000. *Tablets #1* (light orange), each containing 0.1 mg reserpine and 25 mg hydrochlorothiazide; bottles of 100 and 1000.

Consult complete literature before prescribing.

CIBA Pharmaceutical Company, Summit, N. J. **C I B A**

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U OF A PRESS WILL PUBLISH MAJOR MEDICAL VOLUME ON VALLEY FEVER

A medical volume of major inportance in the study of Valley Fever will be published by the University of Arizona Press.

Titled "Coccidioidomycosis" — the scientific name for Valley Fever — the book contains 63 professional papers presented at the Second Symposium on Coccidioidomycosis held in Phoenix, Ariz., Dec. 8-10, 1965. Edited by Libero Ajello of the National Communicable Disease Center, the 434-page volume contains the latest findings of 123 authorities on the disease.

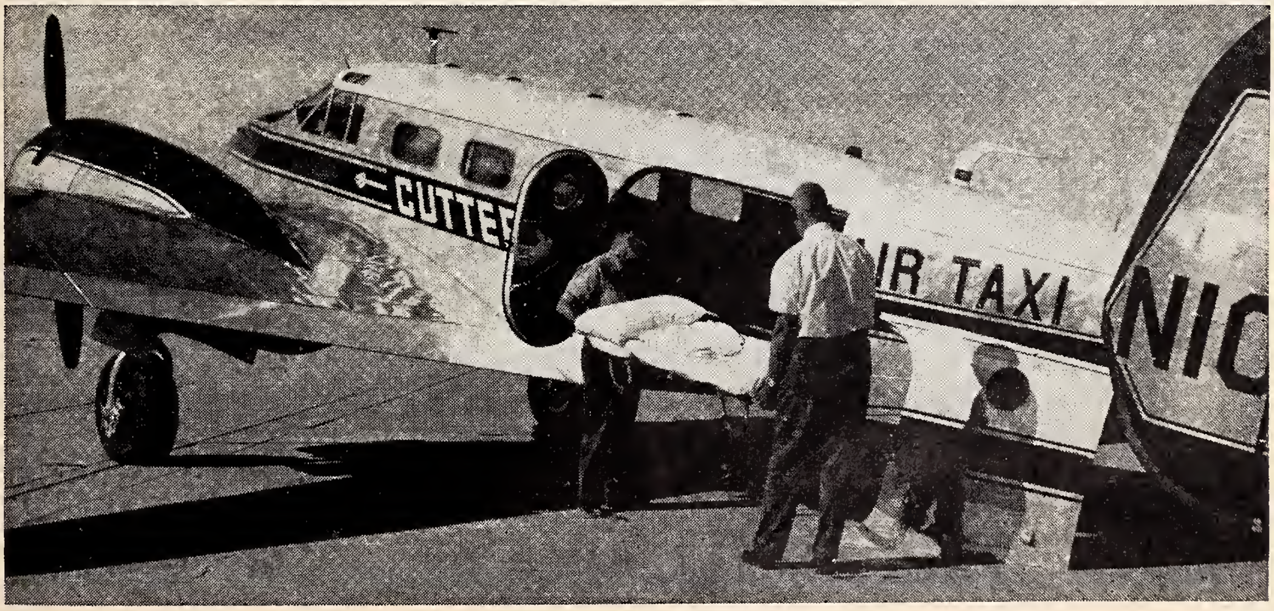
The collaborators represent all parts of the Americas and Great Britain and include several of the most active and knowledgeable investigators in the field of medical mycology. The result is a well-illustrated compendium of information about the disease, its history and treatment.

Long a source of confusion and debate, Coccidioidomycosis has been a continuing major public health problem in large areas of the United States and Latin America. The research and case studies in this sizeable volume indicate that the medical profession is gaining better understanding of its puzzling clinical, histopathological and therapeutic aspects. Particularly encouraging is a group of papers detailing progress being made toward development of a protective vaccine.

Under publication arrangements directed by the Arizona State Department of Health, the book has been dedicated to the late Dr. Charles E. Smith, former dean of the School of Public Health at the University of California, Berkeley.

Priced at $15, the book is viewed by the publisher as "an essential acquisition for modern medical libraries and an important working reference for practicing physicians."

"Coccidioidomycosis" is available through bookstores or direct from the U of A Press, Box 3398, College Station, Tucson, Ariz. 85719.



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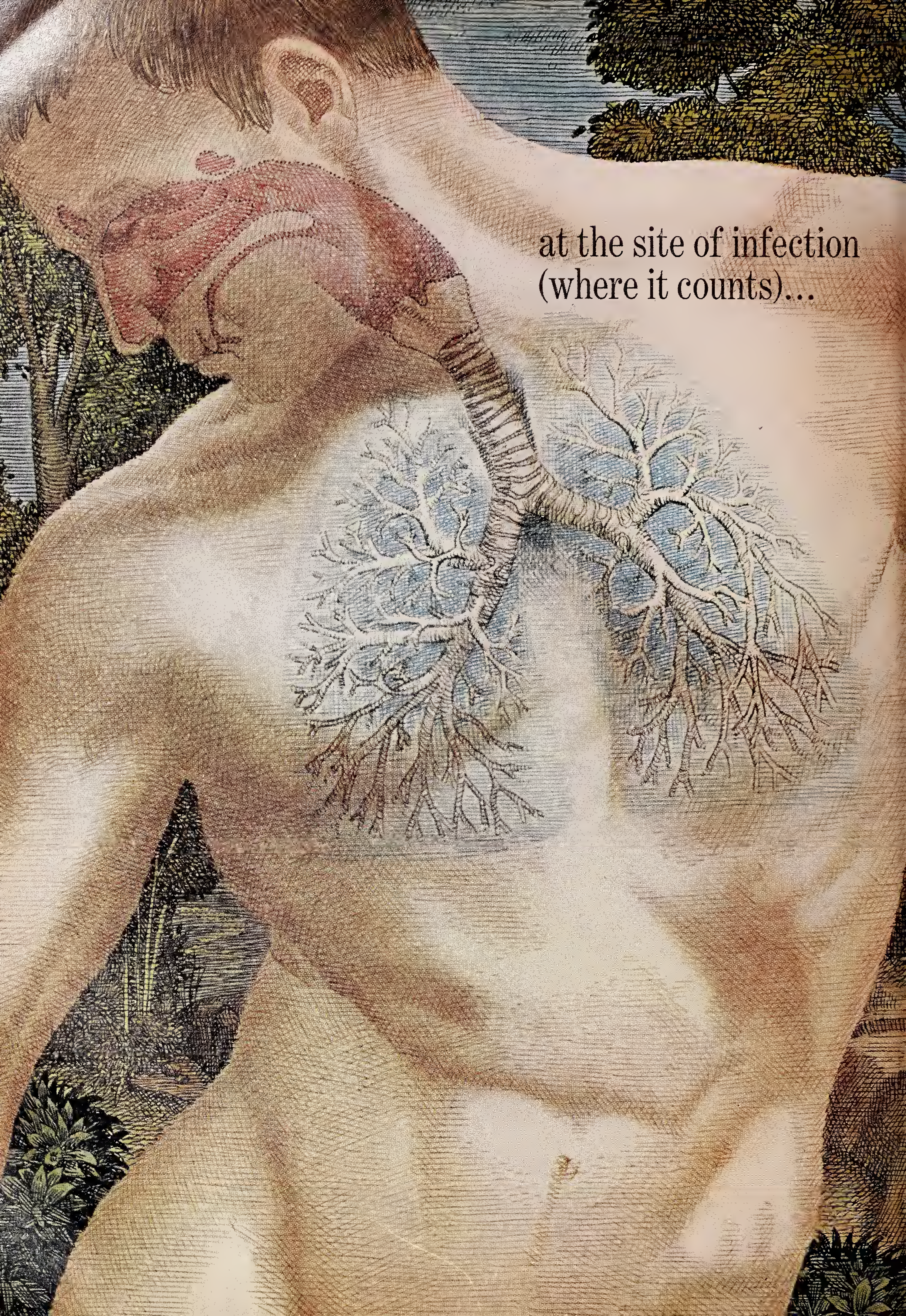

at the site of infection
(where it counts)...

Ilosone® provides more antibacterial activity than any other oral erythromycin

Acid stable, better absorbed . . . Ilosone produces faster, higher, more prolonged blood levels, even in the presence of food[1-3]

Because it is the most active form of oral erythromycin, Ilosone can help assure consistently greater antibacterial activity at the site of infection. Ilosone produces peak antibacterial blood levels two to four times those of other erythromycin preparations.[1,2] Not only are these levels attained earlier, but they are maintained for much longer periods. Even the presence of food does not seem to affect the activity of Ilosone.[1,3]

In the treatment of patients with bacterial infections susceptible to erythromycin, Ilosone has compiled an excellent therapeutic record. Since it exerts its greatest activity against gram-positive organisms, it is particularly useful in common respiratory and soft-tissue bacterial infections. Ilosone kills—not merely inhibits—streptococci, pneumococci, and more strains of staphylococci than any other macrolide antibiotic. This bactericidal action, coupled with the high antibacterial levels attained, makes Ilosone especially valuable in patients with low host resistance, such as infants, debilitated individuals, and diabetics.

Ilosone has shown no cross-resistance with penicillin and may be effective against organisms that have become resistant to that agent. Despite its high antibacterial activity, Ilosone has demonstrated a low incidence of side reactions. Blood dyscrasias, ototoxicity, and tooth staining have not been observed. Infrequent cases of drug idiosyncrasy, manifested by a cholestatic jaundice, have occurred, but there have been no known definite residual effects.

Now available:
New! Ready-mixed Ilosone Liquid 125! (Contains erythromycin estolate equivalent to 125 mg. erythromycin base per 5-cc. teaspoonful.)

700970

Ilosone® Lilly
Erythromycin Estolate

(See next page for prescribing information.)

Ilosone®/the most active oral form of erythromycin

Description: Ilosone is the most active form of oral erythromycin that has been developed. Because it is stable in acid, well absorbed, and excreted in lesser amounts in the bile, it provides faster, higher, and longer-lasting levels of antibacterial activity (ABA) in the serum, even when taken with food, than do comparable doses of erythromycin.

Indications: Ilosone is indicated in infections caused by microorganisms sensitive to its action (especially staphylococci, hemolytic streptococci, and pneumococci). The drug is therefore useful in a high proportion of bacterial diseases encountered in clinical practice and particularly in the treatment of bacterial infections of the upper and lower respiratory tract and soft tissues.

In the treatment of acute bacterial pharyngitis and tonsillitis, this antibiotic has promptly eradicated the bacteria (streptococci) and has produced a parallel prompt clinical improvement. There have been no group A beta-hemolytic streptococci resistant to this preparation. In beta-hemolytic streptococcus infections, treatment should be maintained for ten days to prevent the development of rheumatic fever or glomerulonephritis.

Erythromycin estolate has proved to be very effective in pneumococcus pneumonia and in acute bronchitis with pneumococci on culture. Bronchopneumonia and otitis media in children have responded well to its use.

The antibiotic has been used very successfully in staphylococcus infections. Good therapeutic results have been obtained in soft-tissue infections, abscesses, cellulitis, carbuncles, wound infections, and furunculosis.

In serious staphylococcus infections, erythromycin preparations should be used only in combination therapy with other antimicrobial agents. As is the case with any treatment regimen used in these severe conditions, surgical procedures should be performed when indicated, and large dosages of the antimicrobial agents should be employed. In this fashion, Ilosone has been effective in staphylococcus pneumonia, osteomyelitis, septicemia, empyema, and meningitis.

Multiple 500-mg. doses of the drug have also been useful in gonorrhea and syphilis. Since penicillin is the drug of choice for the treatment of syphilis and gonorrhea, erythromycin estolate should be employed for these infections only in patients with a history of penicillin allergy. Also, other infections due to susceptible bacteria in patients known to be hypersensitive to penicillin or other antibiotics may be considered for treatment with Ilosone.

Contraindications: Ilosone is contraindicated in patients with a known history of sensitivity to this drug and in those with preexisting liver disease or dysfunction.

Adverse Reactions: Data obtained from seven years' use of propionyl erythromycin ester and erythromycin estolate (Ilosone) indicate that hepatic dysfunction with or without clinical jaundice may occur during or following courses of therapy with the drug.

Changes in liver function tests in such cases have been indicative of intrahepatic cholestasis. The symptoms appear to be the result of a form of sensitization. The initial symptoms have developed in some cases after a few days of treatment but generally have followed one or two weeks of continuous therapy or several courses of the drug. Symptoms reappear promptly, usually within forty-eight hours, if the drug is readministered to sensitive patients. Eosinophilia was noted in peripheral blood counts. The findings readily subsided without apparent residual effects when treatment was discontinued. Recovery was delayed in one reported instance. The physician indicated in this case that either drug-induced jaundice or viral hepatitis may have been responsible for the findings.

In one clinical study involving ninety-three patients treated with the antibiotic, three cases of jaundice were observed and an additional eleven cases developed some changes in liver function tests. Three of the patients had abnormal liver function tests a second time on readministration of the drug.

Even though it is assumed that not all cases of jaundice have been reported, it seems clear that the number is small compared with the amount of drug that has been used. Reported cases have included persons in whom there had been administered other drugs known to be associated at times with hepatic side-effects and cases in which the presence of viral hepatitis or other disease may have been responsible for the findings. In some of the cases, associated gastro-intestinal symptoms simulated the colic of biliary tract disease. In other instances, clinical symptoms and results of liver function tests resembled findings in extrahepatic obstructive jaundice. It appears that the occurrence of jaundice after administration of Ilosone is infrequent, but further investigations are being made to estimate its incidence more accurately.

In those cases mentioned above in which jaundice appeared be definitely related to use of the drug, laboratory findings we characterized by increased direct-reacting bilirubin, elevat alkaline phosphatase levels, negative or weakly positive cephal flocculation and thymol turbidity tests, elevated serum glutam oxalacetic transaminase levels, peripheral eosinophilia, and no mal cholecystograms.

Individual idiosyncrasy seems evident since jaundice has n been reported in other patients taking prolonged courses of t medication. Patients with chronic infection have been given 1 to 2 Gm. of the drug daily for periods of two to six months, a patients with rheumatic fever have taken prophylactic doses 0.5 Gm. daily for two years without difficulty. In one group 144 patients who received the drug daily for two years, no jau dice was noted. It was of interest that members of six of the patients' families, who were not taking the drug, had episod of jaundice during the study period.

Transaminase and serum alkaline phosphatase levels we determined in a group of fifty-four adults and children who to 250 mg. of Ilosone daily for an average of sixteen months rheumatic fever prophylaxis. The results were compared wi those of a similar group of forty-four patients who received pe icillin. There were no cases of jaundice in either group. Elevati of SGPT and serum alkaline phosphatase levels during the cour of treatment was observed in one patient treated with Iloso and in two patients treated with penicillin. Seven other patien in the group receiving Ilosone and four others in the penicill group showed elevations in one of the tests at some time duri administration of the drugs.

Very satisfactory therapeutic results, without toxicity, we reported in 102 pediatric patients who received short-term (te day) courses of Ilosone in the treatment of streptococcus infe tions. Results of liver function tests in these patients we comparable to those in a similar control group who had receiv penicillin.

Gastro-intestinal disturbances not associated with hepatic e fects are observed in a small proportion of individuals as a resu of a local stimulating effect of the medication on the alimenta tract; however, the normal intestinal gram-negative bacteri flora is not appreciably altered by erythromycin drugs.

Although allergic manifestations are uncommon with the u of erythromycin, there have been occasional reports of urticari skin eruptions, and, on rare occasions, anaphylaxis.

Administration and Dosage: Ilosone is administered orally.

Ilosone Pulvules®, Ilosone Liquid 125, Ilosone, 125, for Or Suspension, Ilosone Drops, Ilosone Chewable Tablets.

For infants and for children under twenty-five pounds of bo weight, the usual dosage is 5 mg. per pound every six hours; f children twenty-five to fifty pounds, 125 mg. every six hou (Tablets Ilosone Chewable should be chewed or crushed a swallowed with water.)

For adults and for children over fifty pounds, the usual dosa of Ilosone is 250 mg. every six hours.

For severe infections, these dosages may be doubled.

When larger doses are indicated, parenteral erythromyc therapy should be considered.

In the treatment of syphilis, the recommended total dosage 20 to 30 Gm. given in divided doses for a period of ten to fifte days. Close follow-up of the patient is necessary since erythr mycin drugs have not had adequate evaluation in all stages syphilis. Examinations of spinal fluid are recommended as pa of the follow-up therapy.

For gonorrhea, 500 mg. four times a day for four days a recommended. In the treatment of gonorrhea, patients with suspected lesion of syphilis should have a dark-field examinati before receiving antibiotics, and monthly serologic tests shou be made for a period of three months.

How Supplied: Pulvules Ilosone, Capsules, N.F., 125 and 250 m (equivalent to base), in bottles of 24 and 100.

Ilosone Liquid 125, Oral Suspension, U.S.P., 125 mg. (equivale to base) per 5-cc. teaspoonful, in 60-cc. and pint-size package

Ilosone, 125, for Oral Suspension, N.F., 125 mg. (equivale to base) per 5-cc. teaspoonful, in 60 and 150-cc.-size package

Ilosone Drops, 5 mg. (equivalent to base) per drop, in 10-cc.-si packages, with dropper calibrated at 25 and 50 mg.

Tablets Ilosone Chewable, N.F., 125 mg. (equivalent to base in bottles of 50. [03276

References: 1. Griffith, R. S., and Black, H. R.: Am. J. M. Sc., *247*:69, 196
2. Griffith, R. S., and Black, H. R.: Antibiotics & Chemother., *12*:398, 196
3. Hirsch, H. A., Pryles, C. V., and Finland, M.: Am. J. M. Sc., *239*:198, 1960.

Additional information available to physicians upon request.
Eli Lilly and Company, Indianapolis, Indiana 46206.

Lilly

7009

Squaw Peak Sketches

by dry gulch jake

Everyone who has read **Pilgrim's Progress** will remember the man with the muckrake, the man who could look no way but downward with the rake in his hand.

Anyone who believes that the recent rash of post graduate assemblies in Phoenix and Tucson, anyone who has his nose so close to the grindstone as to believe that this is a new innovation here on the desert, might have some interest in the following exclusive Republic dispatch published in 1940 with a dateline of Ganado, Ariz. August 10:

"Dr. Fred H. Albee, New York City, world famous bone surgeon and president of the International College of Surgeons, and Dr. Adrian Comper, Pittsfield, Massachusetts, will demonstrate a $700 fracture table of the latest type before the fifth Harlow Brooks Memorial Navajo Clinical Conference here August 26, 27 and 28.

"Announcement of the annual conference was made today by Dr. C. G. Salsbury, superintendent of Ganado Mission, which includes Sage Memorial Hospital.

Others To Attend

"Other outstanding medical men who will attend will include Drs. Joseph Madison Greer, E. Payne Palmer, Ralph F. Palmer and J. H. Patterson of Phoenix; Drs. Donald Collins, C. Hiram Weaver, William H. Daniel, E. Forrest Boyd, Buell H. Sprague, H. O. Bames, William W. Hutchison, Steele F. Stewart and Alfred Edward Gallant of Los Angeles; Dr. Henry Turner of Oklahoma City, Okla.; Dr. James Paul Rigg of Grand Junction, Colo.; and Dr. Max Thorek of Chicago, Ill.

"Dr. Thorek is known for his surgery and his authorship of medical works.

"Graduation exercises for the 1940 nurses class of Sage Memorial hospital will be held just before and during the conference."

This simply highlights again the sagacity and the push for post graduate medical education inaugurated in Navajoland by our beloved sagebrush surgeon, Dr. C. G. Salsbury.

You will note from this press release that Dr. Albee was not one to hide his table under a bushel, in fact he had a saw and many other instruments which were burnished with his name as the innovator. His contemporaries doubted very much some of his innovations as they seemed to resemble other instruments and tables then on the market.

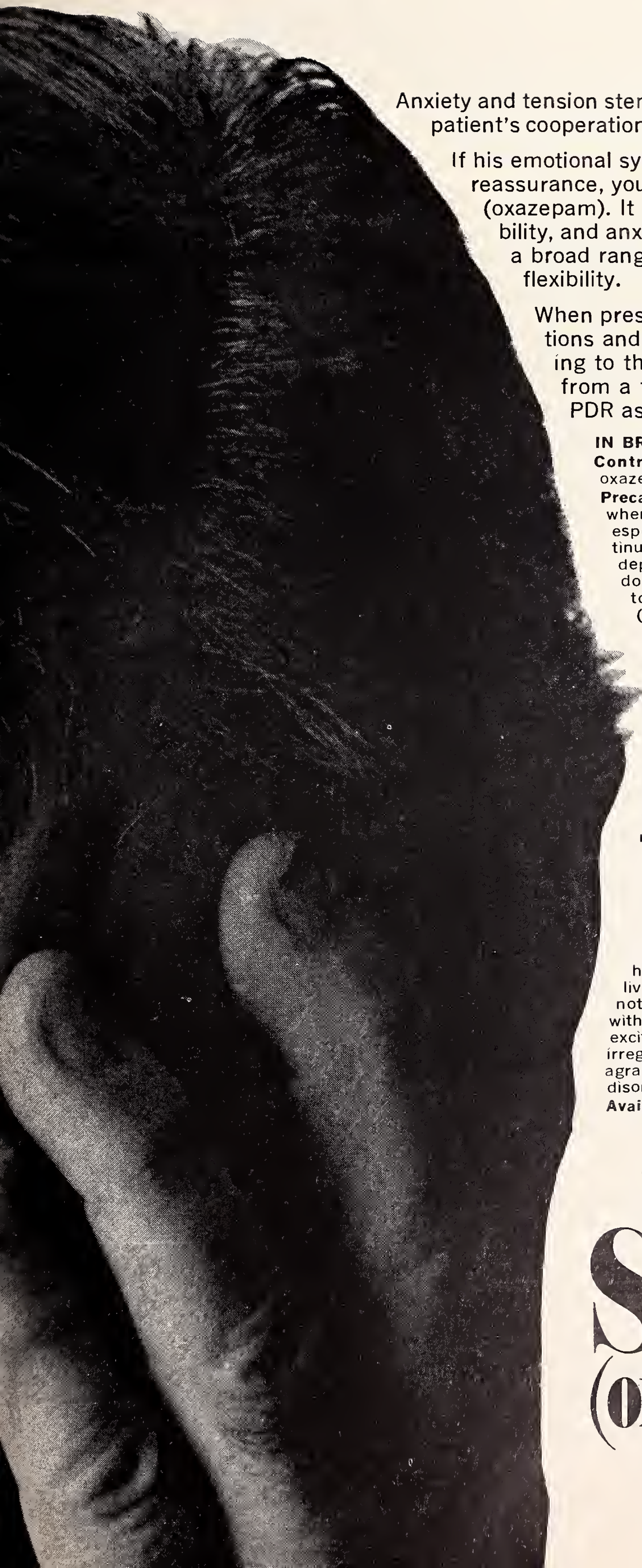
Some of us recall that there were charges of unethical conduct brought against the fabulous bone setter in that he allowed advertisements concerning his availability at a famous clinic in Florida. He allowed his advertisements to be placed on the "Citrus Limited" running from New York to Florida. This hassle occurred about 1934 or '35.

Now we are supposed to be a little more subtle and careful about our advertising.

John W. Kennedy, M.D.

Sick, and worried sick

Professionally posed



Anxiety and tension stemming from organic illness may undermine your patient's cooperation and possibly retard success of primary therapy.

If his emotional symptoms persist in the face of your counsel and reassurance, you may want to consider adjunctive use of SERAX (oxazepam). It is indicated in anxiety, tension, agitation, irritability, and anxiety associated with depression. May be used in a broad range of patients, usually with considerable dosage flexibility.

When prescribing, carefully observe dosage recommendations and appropriate precautions, especially as pertaining to the elderly and when complications could ensue from a fall in blood pressure. (See Wyeth literature or PDR as well as "IN BRIEF" below.)

IN BRIEF.

Contraindications: History of previous hypersensitivity to oxazepam. Oxazepam is not indicated in psychoses.

Precautions: Hypotensive reactions are rare, but use with caution where complications could ensue from a fall in blood pressure, especially in the elderly. Withdrawal symptoms upon discontinuation have been noted in some patients exhibiting drug dependence through chronic overdose. Carefully supervise dose and amounts prescribed, especially for patients prone to overdose; excessive, prolonged use in susceptible patients (alcoholics, ex-addicts, etc.) may result in dependence or habituation. Reduce dosage gradually after prolonged excessive dosage to avoid possible epileptiform seizures. Withdrawal symptoms following abrupt discontinuance are similar to those seen with barbiturates. Caution patients against driving or operating machinery until absence of drowsiness or dizziness is ascertained. Warn patients of possible reduction in alcohol tolerance. Safety for use in pregnancy has not been established.

Not indicated in children under 6 years; absolute dosage for 6- to 12-year-olds not established.

Side Effects: Therapy-interrupting side effects are rare. Transient mild drowsiness is common initially; if persistent, reduce dosage. Dizziness, vertigo and headache have also occurred infrequently; syncope, rarely. Mild paradoxical reactions (excitement, stimulation of affect) are reported in psychiatric patients. Minor diffuse rashes (morbilliform, urticarial and maculopapular) are rare. Nausea, lethargy, edema, slurred speech, tremor and altered libido are rare and generally controllable by dosage reduction. Although rare, leucopenia and hepatic dysfunction including jaundice have been reported during therapy. Periodic blood counts and liver function tests are advised. Ataxia, reported rarely, does not appear related to dose or age. These side reactions, noted with related compounds, are not yet reported: paradoxical excitation with severe rage reactions, hallucinations, menstrual irregularities, change in EEG pattern, blood dyscrasias (including agranulocytosis), blurred vision, diplopia, incontinence, stupor, disorientation, fever and euphoria.

Availability: Capsules of 10,15 and 30 mg. oxazepam.

To help you relieve anxiety and tension

Serax®
(oxazepam)

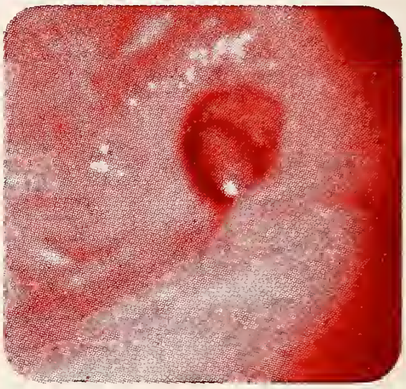
Wyeth®
SERVICE TO MEDICINE

Wyeth Laboratories
Philadelphia, Pa.

NEW EVIDENCE:

Pro-Banthīne® (propantheline bromide) gives positive, selective benefits in gastrointestinal disorders.

Intragastric photograph of pyloric region showing complete relaxation of pyloric sphincter with 6 mg. of Pro-Banthīne intravenously.



An important problem in managing gastrointestinal disorders has been the choice of an anticholinergic agent which will act positively and selectively on the gastrointestinal tract without extensive secondary effects.

Recent direct observations with the cinefibergastroscope and intragastric photography[1] visually confirm previous evidence that Pro-Banthīne does, indeed, possess such selective activity.

Barowsky and his associates demonstrated that a minimal dose of 6 to 8 mg. of Pro-Banthīne intravenously produced complete relaxation of gastric activity. Secondary effects were not significant.

By contrast, it required 0.8 mg. or double the usual dose of atropine intravenously to achieve similar gastric relaxation. Side effects of this dosage of the belladonna alkaloid were pronounced. Ventricular rates were as high as 150 per minute.

For positive, selective anticholinergic benefits Pro-Banthīne is indicated in patients with peptic ulcer, gastritis, irritable colon and other forms of gastrointestinal hypermotility.

Dosage: The maximal tolerated dosage is usually the most effective. For most *adult* patients this will be four to six 15-mg. tablets daily in divided doses. In severe conditions as many as two tablets four to six times daily may be required. Pro-Banthīne (brand of propantheline bromide) is supplied as tablets of 15 mg., as prolonged-acting tablets of 30 mg. and, for parenteral use, as serum-type ampuls of 30 mg. The parenteral dose should be adjusted to the patient's requirement and may be up to 30 mg. or more every six hours, intramuscularly or intravenously.

Contraindications: In glaucoma or severe cardiac disease.

Precautions: Since varying degrees of urinary hesitancy may occur in the elderly male with prostatic hypertrophy, this should be watched for in such patients until they have gained some experience with the drug.

Although never reported, theoretically a curare-like action may occur with possible loss of voluntary muscle control. Such patients should receive prompt and continuing artificial respiration until the drug effect has been exhausted.

Side Effects The more common side effects, in order of incidence, are xerostomia, mydriasis, hesitancy of urination and gastric fullness.

[1] Barowsky, H.; Greene, L.; Bennett, R., and Buganza, G.: The Effect of Anticholinergic Drugs on Gastric Motility and Pyloric Function, Scientific Exhibit, Annual Convention of the American Medical Association, Chicago, Illinois, June 26-30, 1966.

SEARLE *Research in the Service of Medicine*

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Date ________________

Name ________________ M.D. Sex ______ Date of Birth ________

Address ________________ City ________ State ________ Zip ______

Net Income From Your Practice $________ For 1966 $________ For 1965 $________ For 1964

Do You Have an Ownership in Any Unincorporated Trade or Business? ________________

NOTE: If your practice is a partnership, please attach separate information giving the same data as above for each partner.

Employees, If Any:

Name	Sex	Date of Birth	Date Employed	Salary	Full or Part Time

FUTURE MEDICAL MEETINGS

1967 SCIENTIFIC PROGRAM

Monday, September 18

9:00-12:00 A.M.
Clinical Courses and Closed Circuit TV Program

1:30-3:00 P.M.
The Physician in the Patient's World

1. The Patient
   Harry Levinson, PH.D., Topeka, Kans.
2. The Patient's World
   Martin Loeb, PH.D., Madison, Wis.
3. The Physician in the Patient's World
   H. H. Garner, M.D., Chicago, Ill.

4:00-5:00 P.M.
The Eye (possibly closed circuit TV)
Malcolm A. McCannel, M.D.
Minneapolis, Minn.

Tuesday, September 19

7:30-9:00 A.M.
Breakfast Conferences

9:00-9:30 A.M.
Bugs and Drugs
Weldon Taylor, PH.D., Chicago, Ill.

9:30-10:00 A.M.
Eternal Estrogens
Robert Rutherford, M.D.
Seattle, Wash.

11:00-12:00 A.M.
Back Pain
Paul Williams, M.D., Dallas, Tex.

1:30-3:00 P.M.
The Young Cardiac (Will include hypertension, missed congenital heart and the damaged heart)
Jack C. Redman, M.D., Moderator
Albuquerque, N.M.
Herman J. Smith, M.D.
Des Moines, Ia.
H. Gunther Bucheleres, M.D.
Chicago, Ill.
George Griffith, M.D.
Los Angeles, Calif.

4:00-5:00 P.M.
Question and Answer Period on "The Young Cardiac"

Wednesday, September 20

9:00-12:00 A.M.
Clinical Courses and Closed Circuit TV

1:30-3:00 P.M.
Symposium on the Failing Lung

1. Early Diagnosis and Prevention
   Howard S. Van Ordstrand, M.D., Cleveland, Ohio
2. Pulmonary Physiology and Testing
   Alan K. Pierce, M.D., Dallas, Tex.
3. Management
   Edwin Levine, M.D., Chicago, Ill.

4:00-4:30 P.M.
Surgical Problems of the Newborn
Tague Chisholm, M.D.
Minneapolis, Minn.

4:30-5:00 P.M.
The Unmothered Child Syndrome
Doris Howell, M.D.,
Philadelphia, Pa.

Thursday, September 21

7:30-9:00 A.M.
Breakfast Conferences

9:00-9:30 A.M.
A New Look at Abdominal Pain
Phil Thorek, M.D., Chicago, Ill.

9:00-10:00 A.M.
Medical Care in the Villages of Vietnam
Lawrence A. Smookler, M.D.
San Francisco, Calif.

11:00-12:00 A.M.

Diagnostic and Therapeutic Nuggets (10-minute presentations)

1. Cardioversion
   Richard Berry, M.D.,
   Dallas, Tex.

1:30-3:00 P.M.
Sexual Aberrations
James Grobe, M.D., Moderator
Phoenix, Ariz.
Dana L. Farnsworth, M.D.
Cambridge, Mass.
Shervert Frazier, M.D.,
Houston, Tex.

4:00-5:00 P.M.
Question and Answer Period on "Sexual Aberrations"

A.A.G.P.

NINETEENTH ANNUAL

Scientific Assembly

Dallas, Texas

September 18-21

ELEVENTH WESTERN INDUSTRIAL HEALTH CONFERENCE

September 29-30, 1967

The San Francisco Hilton

San Francisco, Calif.

Partial listing of speakers and topics: Allen Enelow, M.D., "The Compensable Injury—Prediction and Prevention."

John Foggman, M.D., "Chromosomes, Radiation and Cancer."

Harvey Lash, M.D., Ph.D., "Silicone Transplants and Plastic Surgery."

Victor H. Beauzay, L.L.B. "Industrial Injury—Viewpoint of the Applicant's Attorney."

For additional information regarding registration, etc., contact:

Mr. Lynn Wallis (H.P.S.)
General Electric Co.
P. O. Box 846
Pleasanton, Calif. 94566

FIFTEENTH ANNUAL MEETING PACIFIC COAST FERTILITY SOCIETY

Sept. 28 - Oct. 1, 1967

Mountain Shadows Resort and Country Club

Scottsdale, Arizona

A stimulating and outstanding program in the broad field of reproducing physiology will be offered.

Dr. M. C. Shelesnyak, Weizmann Institute of Science, Rehovogh, Israel, will be one of the distinguished Guest Lecturers.

The meeting is open to physicians, interns, residents, fellows and nurses.

For information write:

Pacific Coast Fertility Society

5410 Wilshire Boulevard

Los Angeles, Calif. 90036

UNIVERSITY OF SOUTHERN CALIFORNIA SCHOOL OF MEDICINE POST-GRADUATE COURSE

A post-graduate course, sponsored by the University of Southern California School of Medicine, will be conducted in early 1968 at Arizona State Hospital for physicians engaged in private practice.

The course, led by two instructors (both psychiatrists in private practice in Phoenix) will emphasize psychiatric features and problems encountered in medical practice.

These will include: interviewing skills and procedures, recognition, evaluation and management of milder emotional disorders, handling relationships with all patients, psychotrophic drugs, the physician's self-understanding (his own reactions to patients), the nature of mental disorders, neurotic, psychotic and behavioral disorders and their management, working with families.

Demonstration interviews, either live or on TV tapes, will be presented at virtually each session.

There will be one 2-hour class weekly for twelve weeks, to be held each Tuesday evening from 7 to 9 p.m., from January 19 through March 26, 1968.

AAGP, Category I, accreditation will be given to those desiring it.

Registration for the course is now in progress and will be closed when a maximum of 30 has been reached (two sections, 15 "students" in each). Applications may be obtained by writing to:

Postgraduate Division of Psychiatry
University of Southern California
Medical School
2025 Zonal Avenue
Los Angeles, California 90033

The tuition fee is $50.00. This fee will be refunded to those individuals who fully complete the course. This provision is made, not as an incentive toward course completion, but in appreciation of the participants' contribution toward certain statistical and experimental studies concerning the evaluation of the methodology of the course, by the individual participants. This study is being made by USC psychologists. It will consist essentially of a questionnaire which will be presented at the last session.

Medical Center X-Ray and Clinical Laboratory

1313 North 2nd Street
Phoenix, Arizona
Phone ALpine 8-3484

DIAGNOSTIC X-RAY

CLINICAL PATHOLOGY **TISSUE PATHOLOGY**

ELECTROCARDIOGRAPHY **BASAL METABOLISM**

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ALCOHOLIC BEVERAGES IN CLINICAL MEDICINE

Chauncey D. Leake, Ph.D
Milton Silverman, Ph.D.

Some months ago, a book entitled **Alcoholic Beverages in Clinical Medicine** was sent to the offices of ARIZONA MEDICINE. As our problems at the end of 1966 seemed to multiply, the book went unread and occupied a prominent space on a bedstand. As the problems were solved, the book was picked up one evening and never replaced until completely read. The book was fascinating enough that it is felt that a detailed book review could be placed in ARIZONA MEDICINE for the benefit of its readers.

Alcoholic Beverages in Clinical Medicine is authored by two well-known researchers in the field of Pharmacology. They are Chauncey D. Leake, Ph.D., who, at the present time, is the Director of Special Research Studies at the University of California School of Medicine and is a Past President of the American Association for the Advancement of Science, and Milton Silverman, Ph.D., former Director of Medical Research, Wine Advisory Board, California State Department of Agriculture, who is now with HEW in Washington. Both names are familiar.

The book is the handy 6" x 9" size containing 160 pages and organized into a Preface, Seven Chapters, and containing a Bibliography of some 416 sources, the majority of which are almost household names in Pharmacology. The book is copyrighted 1966 by Year Book Medical Publishers, Inc., 35 E. Wacker Drive, Chicago, Ill., and is on sale in medical book stores. The price is $5.25.

The first sentence of the Preface of this book is a key to the contents. This sentence states that "of all pharmacologically active substances, probably none is used more widely than ethyl alcohol in the form of various alcoholic beverages."

Chapter I is a Historical Overview which takes us back some 8,000 years, to 6000 B.C., in its narration of the record of alcohol and its colorful history in regard to mankind.

Chapter II is a Chemistry of Alcoholic Beverages. The chapter is divided into discussion of beers, table wines, dessert and cocktail wines, miscellaneous fermented spirits and beverages, liqueurs and distilled spirits. Even to a jaded reader, it will be a revelation in its information as to what the reader does not know about the types of alcoholic beverages.

Chapter III pursues the Pharmacology of Alcoholic Beverages into a complete pharmacological report including the physicochemical properties, metabolism, and even the local and cellular actions of the various spirits.

Chapter IV dwells on the Indications for the Medicinal Use of Alcoholic Beverages including a dissertation on the selection of the beverage for the various conditions in which alcohol may be used medicinally.

Chapter V follows naturally and indicates the Contraindications to the Medicinal Use of Alcoholic Beverages discussing not only individual idiosyncrasies to alcohol but to conditions which are disturbed by alcoholic usage such as peptic ulcers, liver disease, viral hepatitis, kidney disease and some metabolic diseases.

Chapter VI deals with the Toxicity of Alcoholic Beverages with specific emphasis being placed on general and acute alcohol poisoning and chronic alcohol poisoning and alcoholism.

Chapter VII is a chapter dealing on the Social Pharmacology of Alcoholic Beverages. This last chapter is frankly worth the reading of the book. Cultural drinking patterns are discussed, as are beverage selection, the childhood education in the use of alcohol, parental behavior and the use of alcohol, and the cultural attitudes relative to the partaking of alcohol with meals.

The Bibliography, as I have mentioned above, contains 416 separate items. It will be noted that references are not only national, but international.

The book is indexed adequately and contains a postscript.

The book is recommended not only as a source of information about alcohol but as interesting reading at off-time periods. I am sure that all physicians are at times concerned with some of the problems indigent to living in a society in which the consumption of alcohol is condoned. Doctors Chauncey Leake and Milton Silverman seem to delve beneath the surface to give us not only an increase in our basic knowledge of a common pharmacological agent but an answer to some of our deeper questions regarding the ultimate consumption of alcoholic beverages.

I can heartily recommend this book. The sophisticated approach and the complete honesty of the authors plus the educational content of the book all make for excellent reading. R.F.S.

Picture of low back pain

treated with Parafon Forte® TABLETS

Paraflex® (chlorzoxazone)* 250 mg.
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References: 1. Batterman, R. C., and Grossman, A. J.: Fed. Proc. *14*:316, 1955. 2. Goodman, L. S., and Gilman, A., ed.: The Pharmacological Basis of Therapeutics, ed. 3, New York, The Macmillan Company, 1965, p. 331. 3. Roth, J. L. A., *et al.*: Gastroenterology *44*:146, 1963. 4. Conney, A. H., and Burns, J. J.: J. Pharmacol. Exp. Ther. *128*:340, 1960. 5. Settel, E.: Clin. Med. *6*:1373, 1959. 6. Berman, H. H., *et al.*: Dis. Nerv. Syst. *25*:430, 1964. 7. Darienzo, C.: Ibid., *27*:189, 1966.

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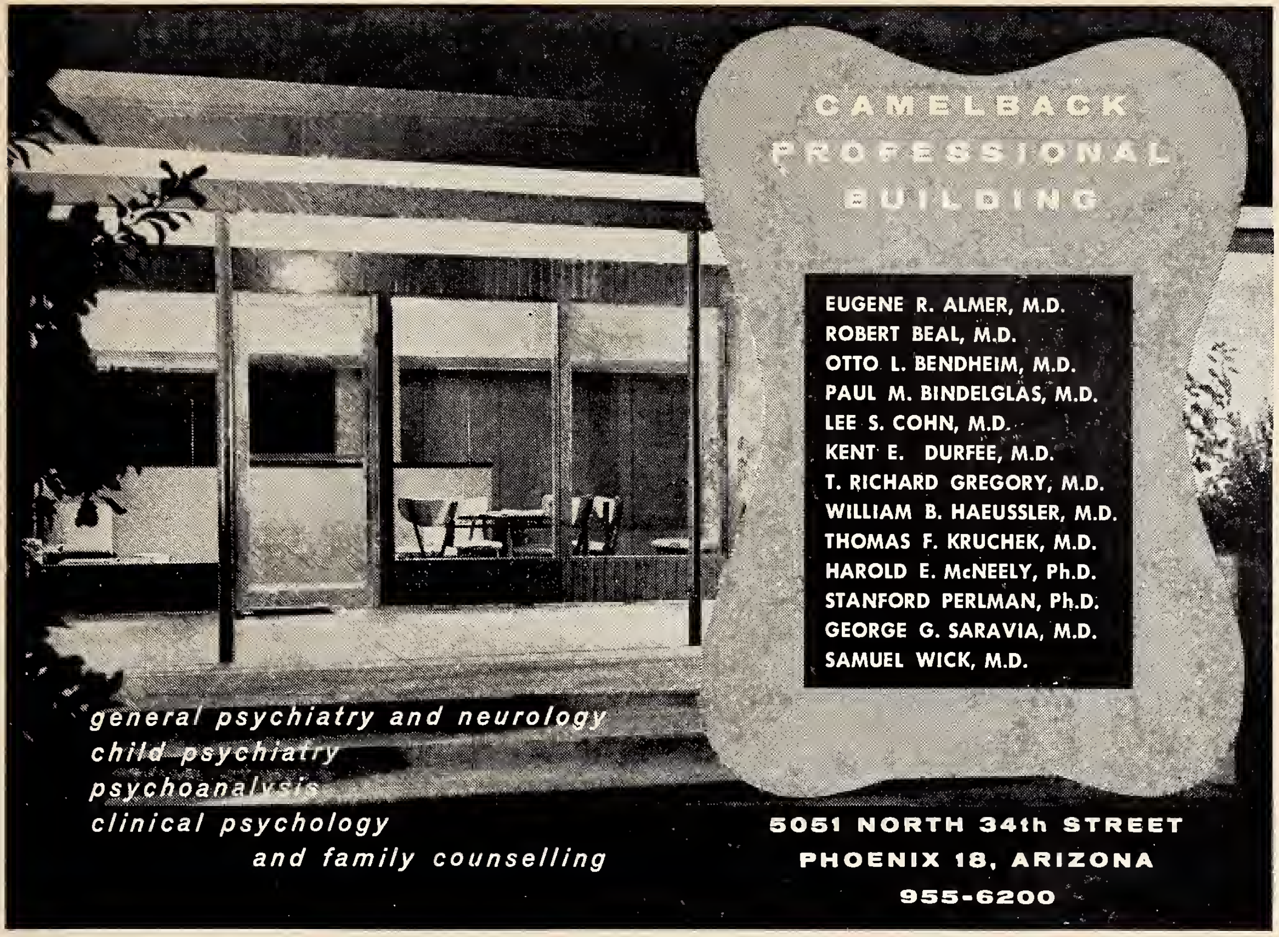

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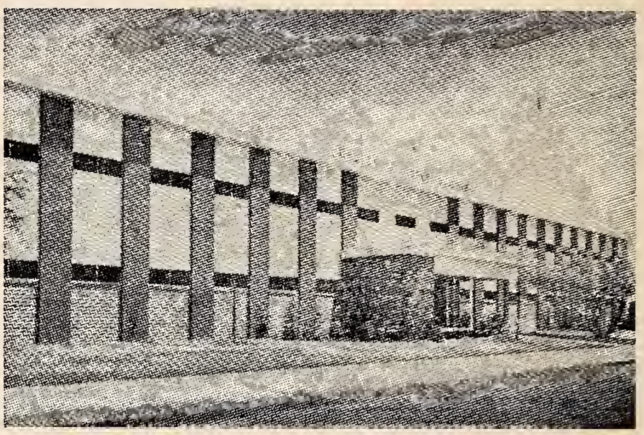

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September, 1967
Vol. 24, No. 9

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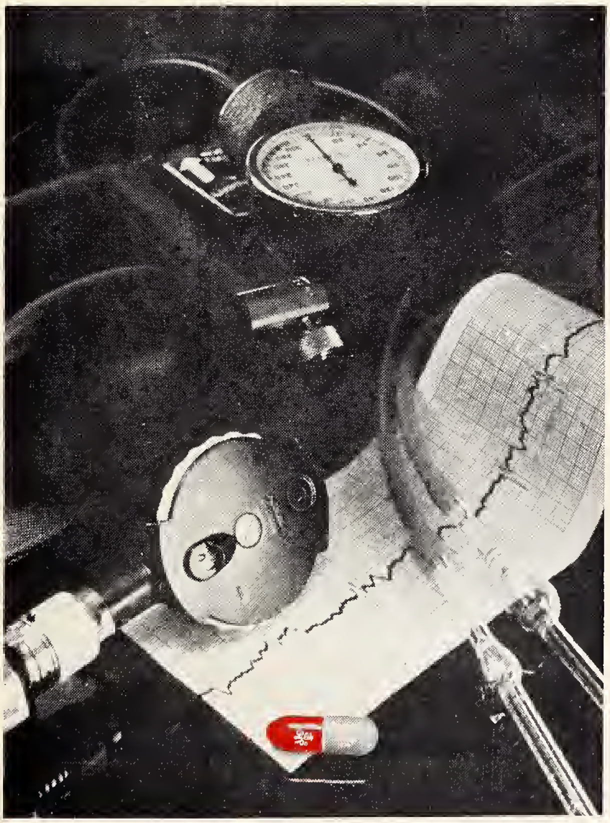

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References:

(1) Siver, R. H.: CMD, *21*:109, September 1954. (2) Frykman, H. H.: Minn. Med., *38*:19-27, January 1955. (3) McGivney, J.: Tex. State Jour. Med., *51*:16-18, January 1955. (4) Quehl, T. M.: Jour. of Florida Acad. Gen. Prac., *15*:15-16, October 1965. (5) Weekes, D. J.: N.Y. State Jour. Med., *58*:2672-2673, August 1958. (6) Weekes, D. J.: EENT Digest, *25*:47-59, December 1963. (7) Abbott, P. L.: Jour. Oral Surg., Anes., & Hosp. Dental Serv., 310-312, July 1961. (8) Rapoport, L. and Levine, W. I.: Oral Surg., Oral Med. & Oral Path., *20*:591-593, November 1965.

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SOURCE: DUNCAN, G.G.: SCIENCE NEWS LETTER, 83:403 (JUNE 29) 1963.

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Arizona Medicine

JOURNAL OF ARIZONA MEDICAL ASSOCIATION
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September, 1967
Vol. 24, No. 9

COLLEGE OF MEDICINE ISSUE

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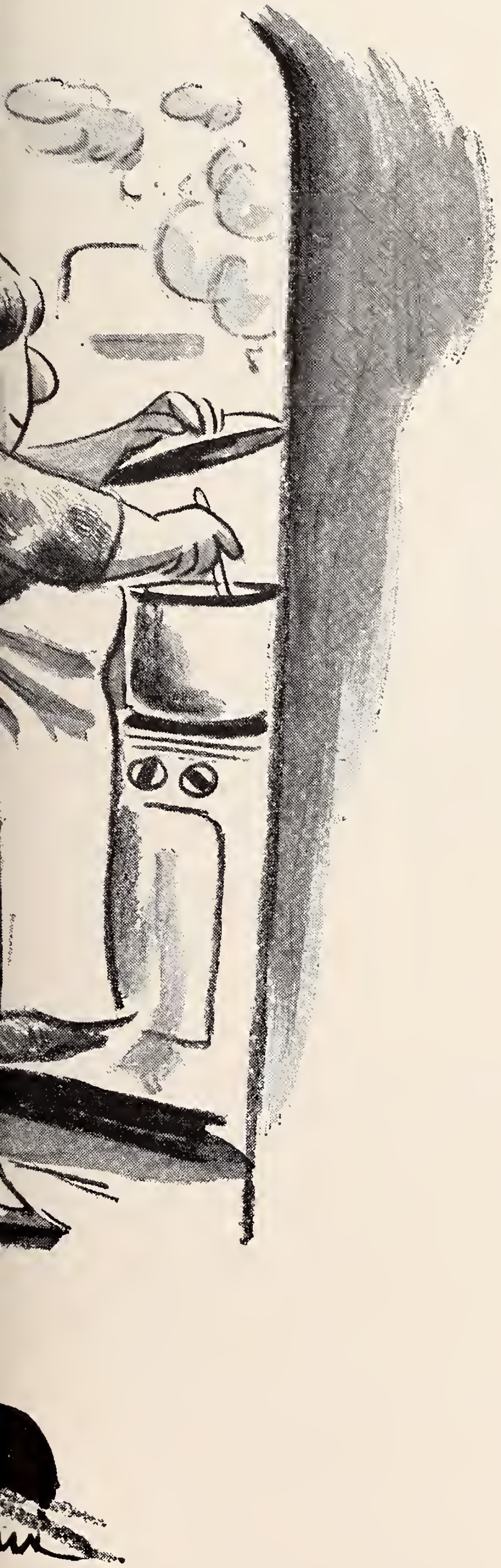

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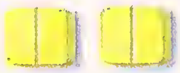
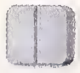
DAILY DOSAGE RANGE	 2.5 mg. methyclothiazide 0.125 mg. deserpidine	 5 mg. methyclothiazide 0.25 mg. deserpidine	 7.5 mg. methyclothiazide 0.375 mg. deserpidine	 10 mg. methyclothiazide 0.5 mg. deserpidine
DAILY DOSAGE RANGE	 2.5 mg. methyclothiazide 0.25 mg. deserpidine	 5 mg. methyclothiazide 0.5 mg. deserpidine	 7.5 mg. methyclothiazide 0.75 mg. deserpidine	 10 mg. methyclothiazide 1 mg. deserpidine

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50 PARGYLINE HYDROCHLORIDE
Pargyline Hydrochloride

Once a day, every day

EUTONYL®
PARGYLINE HYDROCHLORIDE

DAILY DOSAGE RANGE	Minimum	Usual starting	Intermediate	Maximum
	10 mg. tablet	25 mg. tablet	50 mg. tablet or as needed	200 mg.

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1. *Brest, A. N., et al., Cardiac and Renal Hemodynamic Response to Pargyline, Ann. N. Y. Acad. Sci., 107-1016, 1963.*
2. *Winsor, T., Pargyline Hydrochloride, Hypertension, Urinary Tryptamine, and Vascular Reflexes, Geriatrics, 19:598, Aug., 1964.*

See Brief Summary on final page of advertisement.

Eutron adds thiazide for enhanced therapy with milder side effects

ABBOTT

Only a 7/4 mm. span between standing and recumbent pressures in clinical trials—reduced chance of orthostatic hypotension

The combining of Eutonyl and Enduron in Eutron permits a significantly greater antihypertensive effect than with either agent used alone. This in turn may allow therapeutic success with lesser dosage—and correspondingly milder side effects.

A significant finding in clinical trials was the drug's action in lowering blood pressure to *nearly equal levels in all body positions*. Total average spread between standing and recumbent readings (after treatment) was only 7/4 mm. Hg.

Thus, in your moderate to severe cases, Eutron affords a usually smooth course of therapy, often with reduced likelihood of orthostatic effects. (The usual precautions against rising suddenly, of course, will always apply.) And, because of the thiazide component, Eutron may be used in the presence of congestive heart failure.

Once a day, every day

EUTRON™

**PARGYLINE HYDROCHLORIDE 25 MG.
WITH METHYCLOTHIAZIDE 5 MG.**

	Minimum	Usual starting	Intermediate	Maximum
DAILY DOSAGE RANGE				
	12.5 mg. pargyline hydrochloride and 2.5 mg. methyclothiazide	25 mg. pargyline hydrochloride and 5 mg. methyclothiazide	37.5 mg. pargyline hydrochloride and 7.5 mg. methyclothiazide	50 mg. pargyline hydrochloride and 10 mg. methyclothiazide

See Brief Summary on final page of advertisement.

TM—Trademark

ENDURON®

METHYCLOTHIAZIDE

ENDURONYL®

Each tablet contains
Methyclothiazide 5 mg. with
Deserpidine 0.25 mg. or 0.5 mg.

Indications: Enduron is used to control edema and mild to moderate hypertension; also used with other drugs for hypertension. Enduronyl is used in mild to moderately severe hypertension; when used with Enduronyl, more potent agents can be given at reduced dosage to minimize undesirable side effects.

Contraindications: Neither Enduron nor Enduronyl should be used in severe renal disease (except nephrosis) or shutdown; in severe hepatic disease or impending hepatic coma; in patients sensitive to thiazides. Hepatic coma has been reported as a result of hypokalemia in patients receiving thiazides.

Enduronyl is contraindicated in patients with severe mental depression and suicidal tendencies, active peptic ulcer, or ulcerative colitis.

Warnings: Consider possible sensitivity reactions in patients with a history of allergy or asthma. If added potassium intake is indicated, dietary supplementation is recommended. Enteric-coated potassium tablets should be reserved for cautious use only when adequate dietary supplementation is not practical because those tablets may induce serious or fatal small bowel lesions consisting of stenosis with or without ulceration. These small bowel lesions have caused obstruction, hemorrhage and perforation frequently requiring surgery. Medication should be discontinued immediately if abdominal pain, distension, nausea, vomiting or GI bleeding occurs.

Precautions: Use thiazides with caution in severe renal dysfunction, impaired hepatic function, or progressive liver disease. In surgical patients, thiazides may reduce the response to vasopressors and increase the response to tubocurarine. Use thiazides with caution in pregnancy (bone marrow depression, thrombocytopenia, or altered carbohydrate metabolism have been reported in certain newborn infants). Also reported have been: blood dyscrasias including thrombocytopenia with purpura, agranulocytosis and aplastic anemia; elevations of BUN, serum uric acid, or blood sugar. Symptomatic gout may be induced. Antihypertensive response may be enhanced following sympathectomy.

Use Enduronyl with caution in patients with a history of peptic ulcer, as rauwolfias may increase gastric secretion. Discontinue at the first sign of mental depression. Rauwolfia alkaloids may increase hypotensive effects of surgery or anesthesia, and should be discontinued two weeks prior. They also lower the convulsive threshold and shorten seizure latency. In epilepsy, dosage adjustment of anticonvulsant medication may be necessary. Alcohol, barbiturates, or narcotics may potentiate action of deserpidine.

Adverse Reactions: During intensive or prolonged therapy, guard against hypochloremic alkalosis and hypokalemia (especially the latter if patient is on digitalis). All patients should be observed for signs of hyponatremia ("low-salt" syndrome). Reported thiazide reactions include: anorexia, nausea, vomiting, diarrhea, headache, skin rash, dizziness, paresthesia, weakness, photosensitivity, jaundice, and pancreatitis.

Reported rauwolfia reactions include: nasal stuffiness, nausea, weight gain, diarrhea, aggravation of peptic ulcer, epistaxis, skin eruption, and reduction of libido and potency. Excessive drowsiness, fatigue, weakness, and nightmares may signal early signs of mental depression.

EUTONYL®

PARGYLINE HYDROCHLORIDE

EUTRON™

Each tablet contains
Pargyline Hydrochloride 25 mg.
with Methyclothiazide 5 mg.

Indications: For treatment of patients with moderate to severe hypertension, especially those with severe diastolic hypertension. Not recommended for patients with mild or labile hypertension amenable to therapy with sedatives and/or thiazide diuretics alone. It is desirable to establish the dosage of Eutron by administering component drugs separately.

TM-Trademark.

Contraindications: Pheochromocytoma, advanced renal disease, increasing renal dysfunction, paranoid schizophrenia and hyperthyroidism. Hepatic coma has been reported as consequence of hypokalemia with thiazide therapy. Until further experience is gained not recommended for patients with malignant hypertension, children under 12, or pregnant patients.

Concomitant use of the following is contraindicated: other monoamine oxidase inhibitors; parenteral forms of reserpine or guanethidine; sympathomimetic drugs; foods high in tyramine such as cheese; imipramine and amitriptyline, or similar antidepressants; methyldopa. 2 week interval should separate therapy and use of these agents.

Methyclothiazide is contraindicated in patients with known sensitivity to thiazides.

Warnings: Pargyline hydrochloride is a monoamine oxidase inhibitor. Warn patients against eating cheese, and using alcohol, proprietary drugs or other medication without the knowledge of the physician. When indicated, alcohol, narcotics (meperidine should be avoided), antihistamines, barbiturates, chloral hydrate, and other hypnotics, sedatives, tranquilizers, or caffeine, may be used cautiously in reduced dosage. In emergency surgery ¼ to ⅕ the usual dose of narcotics, analgesics, and other premedications should be used avoiding parenteral administration where possible. Carefully adjust dose of anesthetics to response of patient. Withdraw pargyline two weeks before elective surgery.

Warn patients about the possibility of postural hypotension. Those with angina or coronary artery disease should not increase physical activity with an improvement in well being. Pargyline may lower blood sugar.

Avoid use of enteric-coated potassium tablets, as these may induce serious or fatal small-bowel lesions consisting of stenosis with or without ulceration. These small-bowel lesions have caused obstruction, hemorrhage and perforation frequently requiring surgery. Medication should be discontinued immediately if abdominal pain, distension, nausea, vomiting or GI bleeding occurs. These products contain no added potassium salts and if added potassium intake is desired, dietary supplementation is recommended. Coated potassium tablets should be reserved for cautious use when adequate dietary supplementation is impractical. In patients with a history of allergy or asthma the possibility of sensitivity reactions should be considered.

Precautions: Measure blood pressure while patient is standing to determine antihypertensive effect. Use with caution in hyperactive or hyperexcitable persons. Such persons may show increased restlessness and agitation. Withdraw drug during acute febrile illness. Watch patients with impaired renal function for increasing drug effects or elevation of BUN and other evidence of progressive renal failure; withdraw drug if such alterations persist and progress. Use with caution in patients with liver disease. As with all new drugs, complete blood counts, urinalyses, and liver function tests should be performed periodically. With prolonged therapy, examine patients for change in color perception, visual fields and fundi. Also reported have been: blood dyscrasias including thrombocytopenia with purpura, agranulocytosis and aplastic anemia; elevations of BUN, serum uric acid, or blood sugar. Symptomatic gout may be induced. In surgical patients thiazides may reduce response to vasopressors and increase response to tubocurarine.

Adverse Reactions: Pargyline may be associated with orthostatic hypotension. Mild constipation, slight edema, dry mouth, sweating, increased appetite, arthralgia, nausea and vomiting, headache, insomnia, difficulty in micturition, nightmares, impotence, delayed ejaculation, rash, and purpura have been encountered with pargyline. Hyperexcitability, increased neuromuscular activity (muscle twitching) and other extrapyramidal symptoms have been reported in a few patients with reduced cardiac reserve.

During intensive or prolonged therapy, guard against hypochloremic alkalosis and hypokalemia (especially the latter if patient is on digitalis). Observe all patients for signs of hyponatremia ("low salt" syndrome).

Reported thiazide reactions also include anorexia, nausea, vomiting, diarrhea, headache, dizziness, paresthesia, weakness, skin rash, photosensitivity, jaundice, and pancreatitis. Nocturia has been observed with the combination.

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For many years we have dreamed, planned and anticipated the opening of the College of Medicine at the University of Arizona. A site was chosen, primary personnel was obtained, ground was broken, construction begun, a faculty formed, and the first students for the first class were selected.

This month the teaching of medical students in the State of Arizona begins — and a new era of medicine in Arizona becomes a reality.

ARIZONA MEDICINE presents this commemorative issue with pride. It has been compiled entirely by the Faculty of the College of Medicine, and in it the Dean of the College, Dr. Merlin K. DuVal, introduces the individual members of the faculty, the medical students, and all related personnel. The issue reflects not only a devotion to Medicine, but a dedication to Science.

The impact of the College of Medicine on the scope and stature of Medicine in Arizona can only be estimated and any present estimation, in view of future plans and projections, would at best be inadequate. Time alone can complete this vista and fulfill the many promises.

So to our friends and colleagues at the College of Medicine, we say —

WELL DONE!

WELCOME ABOARD!

Roland F. Schoen, M.D.
Editor

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New Tareyton 100's with even more of the taste worth fighting for. Tareyton-America's largest-selling charcoal-tip cigarette.

© The American Tobacco Company

when bursitis hits a 280-lb. tackle, hit back with Butazolidin alka

Indications: Osteoarthritis, rheumatoid arthritis, rheumatoid spondylitis, psoriatic arthritis, acute gout, painful shoulder (peritendinitis, capsulitis, bursitis and acute arthritis of that joint), acute superficial thrombophlebitis.

Contraindications: Edema; danger of cardiac decompensation; history or symptoms of peptic ulcer; renal, hepatic or cardiac damage; history of drug allergy; history of blood dyscrasia. The drug should not be given when the patient is senile or when other potent drugs are given concurrently. Large doses of Butazolidin alka are contraindicated in glaucoma.

Warning: If coumarin-type anticoagulants are given simultaneously, watch for excessive increase in prothrombin time. Instances of severe bleeding have occurred. Pyrazole compounds may potentiate the pharmacologic action of sulfonylurea, sulfonamide-type agents and insulin. Carefully observe patients receiving such therapy. Use with great caution in the first trimester of pregnancy.

Precautions: Before prescribing, carefully select patients, av
those responsive to routine measures as well as contraindicat
tients. Obtain a detailed history and a complete physical and labo
examination, including a blood count. The patient should not e
recommended dosage, should be closely supervised and shou
warned to discontinue the drug and report immediately if fever
throat, or mouth lesions (symptoms of blood dyscrasia); sudden
gain (water retention); skin reactions; black or tarry stools or
evidence of intestinal hemorrhage occur. Make regular blood c
Discontinue the drug immediately and institute countermeasures
white count changes significantly, granulocytes decrease, or imm
forms appear. Use greater care in the elderly and in hyperter

Adverse Reactions: The most common are nausea, edema anc
rash. Swelling of the ankles or face may be minimized by withh
dietary salt, reduction in dosage or use of diuretics. In elderly pa
and in those with hypertension the drug should be discontinue
the appearance of edema. The drug has been associated with pep

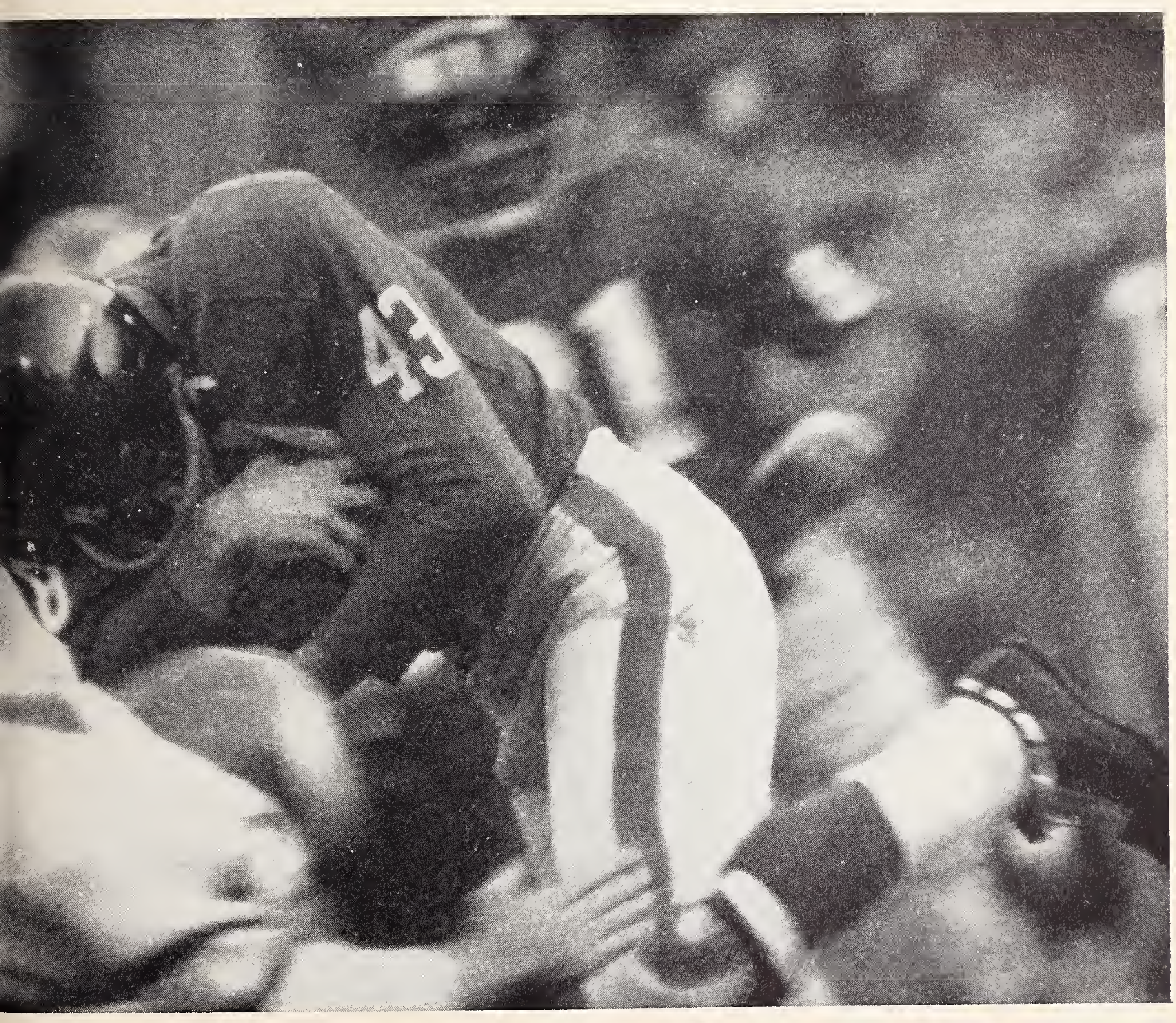
280-lb. tackles—or 108-lb. housewives—Butazolidin alka can hasten recovery from the
ɔnizing pain of shoulder bursitis.

not for every patient. Check carefully the Contraindications, Warning and
ecautions shown below.

d adverse reactions may occur. The most common are nausea, edema and rash.
rely, agranulocytosis has been reported. All adverse reactions are listed below, too.

y-for-pay or workaday patients—when they come up with shoulder bursitis and your
nical judgment indicates Butazolidin alka—go with it.

d watch the comeback.



and may reactivate a latent peptic ulcer. The patient should be in-
cted to take doses immediately before or after meals or with
to minimize gastric upset. Mild drug rashes frequently subside
reduction of dosage. However, rash accompanied by fever or
r systemic reactions usually requires withholding medication.
puric rash has also been reported. Agranulocytosis, exfoliative
matitis, Stevens-Johnson syndrome, or a generalized allergic re-
on similar to serum sickness may occur and require permanent
drawal of medication. Stomatitis, salivary gland enlargement,
iting, vertigo and languor may occur. Leukemia and leukemoid
ctions have been reported. While not definitely attributable to the
g, a causal relationship cannot be excluded. Thrombocytopenic
pura and aplastic anemia may occur. Confusional states, agitation,
dache, blurred vision, optic neuritis and transient hearing loss have
n reported, as have hyperglycemia, hepatitis, jaundice, and several
es of anuria and hematuria. With long-term use, reversible thyroid
erplasia may occur infrequently. Moderate lowering of the red cell
nt due to hemodilution may occur.
6509-V(B)R2

Butazolidin® alka

Capsules

100 mg. phenylbutazone
100 mg. dried aluminum hydroxide gel
150 mg. magnesium trisilicate
1.25 mg. homatropine methylbromide

Dosage in painful shoulder: Initial: 3 to 6 capsules daily in 3 or 4 equal doses. Trial period: 1 week. Maintenance dosage should not exceed 4 capsules daily; response is often achieved with 1 or 2 capsules daily.

For complete details, please see full prescribing information.

Geigy Pharmaceuticals
Division of Geigy Chemical Corporation, Ardsley, New York

even better together
in mild hypertension
Serpasil®-Esidrix®
(reserpine and hydrochlorothiazide CIBA)
Combination Tablets

Serpasil-Esidrix combines reserpine (the original, and most widely used, rauwolfia alkaloid developed by CIBA) with hydrochlorothiazide (the most widely used oral diuretic, also a product of CIBA research).

even better blood pressure reduction—because 2 antihypertensive agents of choice often work better together

One drug potentiates the antihypertensive action of the other. Blood pressure is generally controlled with relatively low dosages of each component, often resulting in minimized side effects.

Although each component alone may provide adequate therapy in many cases of mild hypertension, the combination offers advantages which cannot be achieved with single-drug therapy.

even more patient benefits—because complementary actions of 2 antihypertensive agents extend the range of advantages

Reserpine, in addition to lowering blood pressure, provides central calming action to help relieve anxiety and tension; provides bradycrotic action to slow the rapid heart.

Hydrochlorothiazide, in addition to lowering blood pressure, relieves edema; permits relaxation of salt restriction.

The combination provides medication in one tablet instead of two; one prescription instead of two—encourages patient adherence to the regimen, offers economy.

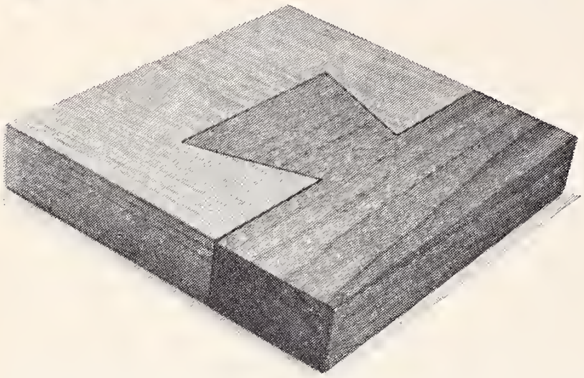
for your next patient with mild hypertension

Rx Serpasil-Esidrix

Combination Tablets

Please see following page for prescribing information.

Serpasil®-Esidrix®
(reserpine and hydrochlorothiazide CIBA)
Combination Tablets



INDICATIONS: Mild to moderate hypertension, especially when complicated by anxiety, tachycardia, or edema.

SIDE EFFECTS AND PRECAUTIONARY MEASURES

Serpasil® (reserpine CIBA)
Occasional side effects: lassitude, drowsiness, nasal congestion, looseness of stools, increased frequency of defecation. Rare side effects: anorexia, headache, bizarre dreams, nausea, dizziness, skin rash.

Severe mental depression has appeared in a small percentage of patients, primarily in a dosage above 1 mg daily. When the drug is discontinued, depression usually disappears, but hospitalization and shock therapy are sometimes required.

Caution: Withdraw reserpine 2 weeks before surgery, if possible. For emergency surgical procedures, give vagal blocking agents parenterally to prevent or reverse hypotension and/or bradycardia.

Because reserpine may increase gastric secretion of hydrochloric acid, use cautiously in patients with peptic ulcer.

Use cautiously with digitalis, quinidine, or guanethidine. Not recommended for aortic insufficiency.

Esidrix® (hydrochlorothiazide CIBA)
Contraindictions: Oliguria, renal shutdown, progressive hepatic disease, and allergy to thiazides.

Warnings: Stenosis, hemorrhage, and ulceration of the small bowel have occurred with coated potassium tablets. Discontinue such medication when used with Esidrix if gastrointestinal disturbances arise.

Pay special attention to electrolyte balance of patients with severe renal or hepatic insufficiency. In patients with cirrhosis and ascites, watch for symptoms of impending hepatic coma. Thiazides may decrease glucose tolerance; use cautiously in diabetics. Hyperuricemia may occur but is readily reversed by a uricosuric agent. Lowering of blood pressure may sometimes result in nitrogen retention, particularly in patients with impaired renal function. Dosage titration is necessary in such patients.

Precautions: Watch for signs of fluid or electrolyte imbalance. Further electrolyte depletion may cause hypochloremic alkalosis and hypokalemia. Since the latter may precipitate digitalis intoxication, watch carefully patients who are taking digitalis or its glycosides or those with cardiac arrhythmias. In severe hypokalemia, large oral or intravenous doses of potassium may be required.

A few infants born of mothers who received thiazides during pregnancy have shown bone marrow depression with thrombocytopenia. Hydrochlorothiazide decreases responsiveness to exogenous norepinephrine and increases responsiveness to tubocurarine. Hypotensive episodes under anesthesia have been observed in some patients receiving thiazides.

Side Effects: In addition to those above, nausea, anorexia, headache, restlessness, constipation, dizziness, paresthesias, fatigue, increased sweating, cramps in arms and legs, diarrhea, abdominal pain. Rare reactions: purpura with or without thrombocytopenia, skin rash, photosensitivity, urticaria. Sometimes associated with hydrochlorothiazide: leukopenia, agranulocytosis, aplastic anemia, pancreatitis, jaundice, necrotizing vasculitis.

DOSAGE
Average dosage is 2 *Tablets #2* daily. For patients requiring less hydrochlorothiazide, substitute *Tablets #1*. For maintenance, reduce dosage to lowest effective level. When necessary, more potent antihypertensive agents may be added gradually in reduced dosages.

SUPPLIED
Tablets #2 (light orange), each containing 0.1 mg reserpine and 50 mg hydrochlorothiazide; bottles of 100 and 1000. *Tablets #1* (light orange), each containing 0.1 mg reserpine and 25 mg hydrochlorothiazide; bottles of 100 and 1000.

Consult complete literature before prescribing.

CIBA Pharmaceutical Company, Summit, N. J. C I B A

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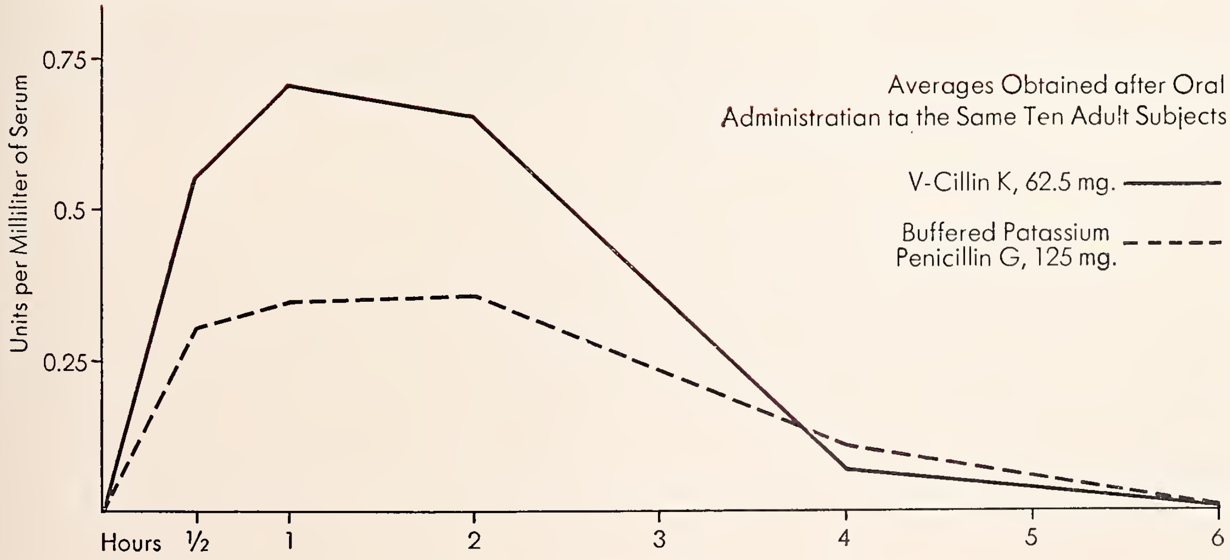
V-Cillin K® provides dependable oral antibacterial activity

because it combines a high degree of in-vitro activity...

Antibiotic	Staph.Aureus (Penicillin-Sensitive) MIC (mcg./ml.) Median	Range	Streptococcus, Group A MIC (mcg./ml.) Median	Range	Diplococcus Pneumoniae MIC (mcg./ml.) Median	Range
Penicillin V	0.02	0.02-0.04	0.02	0.003-0.4	0.01	0.005-0.2
Penicillin G	0.02	0.005-1.6	0.005	0.002-0.2	0.02	0.01-0.1
Methicillin	1.6	0.4-6.3	0.2	0.1-0.4	0.2	0.1-1.6
Oxacillin	0.4	0.1-3.1	0.04	0.02-0.4	0.1	0.04-0.8
Cloxacillin	0.2	0.2-0.8	0.1	0.1-0.8	—	—
Nafcillin	0.4	0.2-0.8	0.04	0.02-0.1	0.02	0.02-0.2
Ampicillin	0.2	0.1-0.8	0.02	0.01-0.04	0.02	0.01-0.04

Adapted from Klein, J. O., and Finland, M.: New England J. Med., 269:1019, 1963.

with high blood levels, even in the presence of food



Adapted from Griffith, R. S., and Black, H. R.: Current Ther. Res., 6:253, 1964.

V-Cillin K® Lilly 700867

Potassium Phenoxymethyl Penicillin

(See next page for prescribing information.)

New 500 mg. tablets...a more convenient way to give high doses

Description: V-Cillin K is the potassium salt of V-Cillin® (phenoxymethyl penicillin, Lilly). This chemically improved form combines acid stability with immediate solubility and rapid absorption. Higher serum levels are obtained more rapidly with this penicillin than with equal oral doses of penicillin G. The higher serum levels and acid stability of V-Cillin K make it a more dependable penicillin for oral use.

V-Cillin K, Pediatric, is an oral solution of clinically proved V-Cillin K in teaspoon dosage form. When mixed as directed, each 5 cc. (approximately one teaspoonful) will contain 125 mg. (200,000 units) phenoxymethyl penicillin as the potassium salt.

Indications: V-Cillin K has been shown to be effective in the treatment of streptococcus, pneumococcus, and gonococcus infections as well as infections caused by sensitive strains of staphylococci. It may be used for the prophylaxis of streptococcus infections in patients with a history of rheumatic fever and for the prevention of bacterial endocarditis after tonsillectomy and tooth extraction in those patients with a history of rheumatic fever or congenital heart disease.

Contraindication: V-Cillin K should not be administered to a patient with a history of penicillin hypersensitivity.

Warnings: In rare instances, the use of penicillin may cause acute anaphylaxis which may prove fatal unless promptly controlled. This type of reaction appears more frequently in patients with a history of sensitivity reactions to penicillin and in those with bronchial asthma or other allergies. Resuscitative drugs should be readily available for emergency administration. These include epinephrine and pressor drugs (as well as oxygen for inhalation) for relief of immediate allergic manifestations and antihistamines and corticosteroids for delayed effects.

Precautions: V-Cillin K should be used cautiously, if at all, in a patient with a strongly positive history of allergy.

In prolonged therapy with penicillin, and particularly with high parenteral dosage schedules, frequent evaluation of the renal and hematopoietic systems is recommended.

In suspected staphylococcus infections, proper laboratory studies (including sensitivity tests) should be performed.

The use of penicillin may be associated with the overgrowth o pencillin-insensitive organisms. In such cases, its administration should be discontinued, and appropriate measures should be taken.

Adverse Reactions: Although serious allergic reactions are much less common with administration of oral penicillin than with intramuscular forms, manifestations of penicillin allergy may occur.

Penicillin is a substance of low toxicity, but it does possess a significant index of sensitization. The following hypersensitivity reactions associated with the use of penicillin have been reported: skin rashes ranging from maculopapular eruptions to exfoliative dermatitis; urticaria; and reactions resembling serum sickness, including chills, fever, edema, arthralgia, and prostration. Severe and often fatal anaphylaxis has occurred (see Warnings). Hemolytic anemia, leukopenia, thrombocytopenia, and nephropathy are rarely observed side-effects and are usually associated with high parenteral dosage.

Administration and Dosage: For Tablets V-Cillin K and for V-Cillin K, Pediatric, the usual dosage ranges from 125 mg. (200,000 units) three times a day to 500 mg. (800,000 units) every four hours. For infants the daily dosage may be 50 mg. per Kg. of body weight divided into three doses.

Beta-hemolytic streptococcus infections without associated bacteremia may be treated with 200,000 to 400,0000 units three times a day. Therapy should be continued for a minimum of ten days to prevent development of rheumatic fever and/or other serious complications. Dosage for routine streptococcus prophylaxis in patients with a history of rheumatic fever or congenital heart disease may be 200,000 units once or twice daily. When such patients undergo tonsillectomy, tooth extraction, or other minor surgery, the prophylactic dose should be 500,000 units every six hours given two days prior to surgery and for two days postoperatively. If oral medication is not feasible on the day of surgery, parenteral therapy should be considered. Mild to moderately severe pneumococcus pneumonia has been treated effectively with 250 mg. every six hours.

In staphylococcus infections, 400,000 units or more should be given every six to eight hours in conjunction with indicated surgical procedures.

For gonorrhea in males, 500 mg. (800,000 units) every four hours for three doses may be employed; in females, 500 mg. every four hours for six doses are recommended. Refractory infections generally respond to a second treatment three to four days following completion of the first. Treatment of gonorrhea with severe complications should be individualized, with prolonged and intensive treatment. Patients with a suspected lesion of syphilis should have a dark-field examination before receiving penicillin and monthly serologic tests for a minimum o three months.

How Supplied: Tablets V-Cillin K, U.S.P., 125 mg. (200,000 units), in bottles of 50 and 100; and 250 mg. (400,0000 units) and 500 mg. (800,000 units), in bottles of 24 and 100.

V-Cillin K, Pediatric, for Oral Solution, 125 mg. (200,000 units) per 5 cc. of solution, in 40, 80, and 150-cc.-size packages. [032067]

Additional information available to physicians upon request. Eli Lilly and Company, Indianapolis, Indiana 46206.

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Yes, it cost a lot of money, time and effort to get this medical school to open its doors at this address. ☐ But the return on the investment far outweighs the investment itself: More hands and hearts to heal the state's hurt and sick, migration to Arizona of significant talents and minds, prestige for our state... a future bright with promise for all Arizonans. ☐ We have always considered the two-way street too: What's best for our subscribers, physicians and hospitals is naturally good for us too and strengthens the bonds between us. ☐ It gives us great pleasure to greet another institution which offers a similar exchange.

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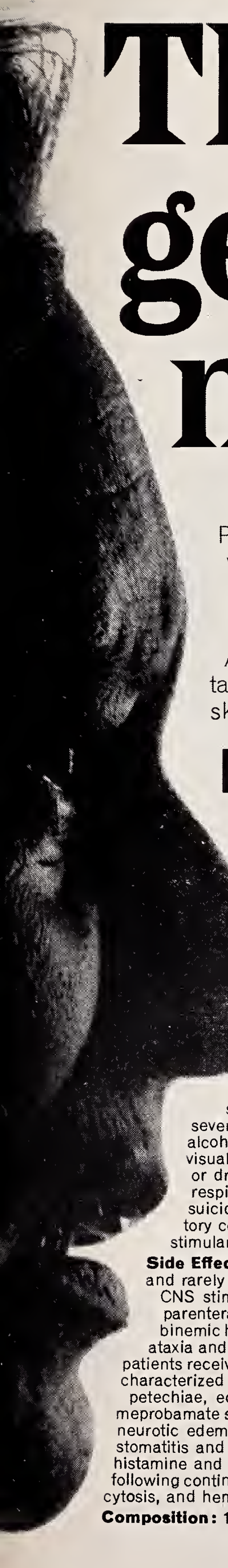

This pain is getting on my nerves.

Patients in pain often experience concomitant anxiety and tension, which may add to the burden of pain.

For such patients, you may want to prescribe a preparation that offers more than simple analgesia.

A good choice is often EQUAGESIC® (meprobamate and ethoheptazine citrate with aspirin). It helps relieve pain. And anxiety. And skeletal muscle spasm as related to pain or anxiety and tension.

Equagesic® TABLETS
(meprobamate and ethoheptazine citrate with aspirin)

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Contraindications: History of sensitivity or severe intolerance to aspirin or meprobamate.

Warnings: USE IN PREGNANCY: Safety for use during pregnancy or lactation has not been established; therefore it should be used in pregnant patients or women of child-bearing age only when the physician judges its use essential to the patient's welfare.

Precautions: Keep out of reach of children. Not recommended for patients 12 years old or less. Carefully supervise dose and amounts prescribed, especially for patients prone to overdose themselves. Excessive prolonged use of meprobamate may result in dependence or habituation in susceptible persons—as alcoholics, ex-addicts, severe psychoneurotics. Withdraw gradually after prolonged high dosage to avoid possibly severe withdrawal reactions including epileptiform seizures. Warn patients of possible reduced alcohol tolerance. If drowsiness, ataxia or visual disturbances (impairment of accommodation and visual acuity) occur, reduce dose. If symptoms persist, caution patients against operating machinery or driving. After meprobamate overdose, prompt sleep, reduction of blood pressure, pulse and respiratory rates to basal levels, and hyperventilation are reported. Give cautiously to patients with suicidal tendencies. Treat attempted suicide (has resulted in coma, shock, vasomotor and respiratory collapse and anuria) with immediate gastric lavage and appropriate supportive therapy (CNS stimulants and pressor amines as indicated).

Side Effects: Ethoheptazine and aspirin may occasionally cause nausea, vomiting, epigastric distress, and rarely dizziness. Overdosage may result in CNS depression (drowsiness and lightheadedness) or CNS stimulation and salicylate intoxication (requires induced vomiting or gastric lavage, specific parenteral electrolyte therapy for ketoacidosis and dehydration, and observation for hypoprothrombinemic hemorrhage [usually requires whole blood transfusions]). Meprobamate may cause drowsiness, ataxia and rarely allergic or idiosyncratic reactions. These reactions, sometimes severe, can develop in patients receiving only 1 to 4 doses who have had no previous contact with meprobamate. Mild reactions are characterized by urticarial or erythematous maculopapular rash. Acute nonthrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever have been reported. If allergic reaction occurs, meprobamate should be stopped and not reinstituted. Severe reactions, observed very rarely, include angioneurotic edema, bronchial spasms, fever, fainting spells, hypotensive crises (1 fatal case), anaphylaxis, stomatitis and proctitis (1 case) and hyperthermia. Treat symptomatically such as with epinephrine, antihistamine and possibly hydrocortisone. A few cases of leucopenia, usually transient, have been reported following continuous use. Rarely, cases of aplastic anemia (1 fatal case), thrombocytopenic purpura, agranulocytosis, and hemolytic anemia have been reported; almost always, in the presence of known toxic agents.

Composition: 150 mg. meprobamate, 75 mg. ethoheptazine citrate and 250 mg. aspirin per tablet.

Wyeth Laboratories Philadelphia, Pa.

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The ARMADA ASSURANCE AGENCY, Inc.

for having designed and developed an outstanding H.R.-10 PROGRAM for

MEMBERS of THE ARIZONA MEDICAL ASSOCIATION

THE **ARMADA** PLAN

Southwestern Life is Proud To Have Been Chosen To Provide the Annuity as an important segment of the Program and the Disability Income Insurance as an Option.

Together, **SOUTHWESTERN LIFE INSURANCE COMPANY**
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hope to serve you long and well

Dear Doctor:

We invite you to read

"The Armada Story"

During the past few years, with gray hairs increasing in number, I have been asked by several doctor-clients, *"What happens to me and my program if something happens to you? To whom do I go?"* Provoking questions. Brown hair or gray, I could die at any time with only my secretary really familiar with my files. She could help some, but you'd better get to her fast because her pay check just stopped.

In searching for a solution, I asked myself, "What does the physician without a partner do?" The answer was just as simple as the question — *complete records, history, previous treatment and plans for future treatment, if necessary, available to the physician's successor.* In a clinic — no problem — complete records always at hand, and associates to carry on with no interruption or confusion. Certainly my clients deserve the same *organized security* that I, as a patient, enjoy with my personal physician.

The idea began to develop of an agency (*clinic*), staffed with highly qualified men — men with an intense interest and desire to provide professional service to a group of people having in common many needs and problems. This idea was discussed with several doctors, each one indicating that it *sounded good.* Since competition for the physician's insurance accounts is pretty keen, *the new agency had to have much more to offer. What?*

True, I had been servicing the ArMA-Cal-Western Group Life Insurance program in most of the state, but so were other agents servicing other group programs — County Society programs, etc. Others were solicited by mail. Nothing here to give us qualified assurance.

We were aware of one *BIG* area where we could offer a necessary service — a Group Professional Liability Program with rates and features attractive to all ArMA members. At about the same time, long awaited revisions in the Keogh Bill created new and deserved interest. If these two programs could be developed for the Association and made superior to programs otherwise available, we knew we would have the products and could then produce the service.

The Medical Economics Committee was approached for permission to work at developing the two programs. Permission was granted — our work had begun. Much counseling and many man-hours went into searching for carriers, a bank-trustee, legal help and I.R.S. approval where needed. Unfortunately none of the carriers solicited for the liability coverage greeted us with open arms. Our immediate efforts were therefore concentrated on the H.R.-10 Program. Six months of collective planning and research made it possible to present THE ARMADA PLAN for approval. *It was approved and is now available for your individual consideration.*

We did not forsake the all-important liability program and are now in final discussion on a combined Professional & Personal Catastrophe Protection program. All signs indicate we will have a reduced cost, long-range program for qualified ArMA members.

The ARMADA ASSURANCE AGENCY was legally born May 31, 1967. It *is* an agency *"dedicated to the service of Arizona Physicians."* It *is* off the ground. It *is* prepared to offer complete insurance service and counseling; estate conservation through intelligent planning; diligent effort toward developing advantageous group programs and improving existing programs, where possible; complete and standardized record keeping on all clients; and a corporate entity behind each staff member serving you. WE DO HAVE MORE TO OFFER. As we see it, the Agency's success depends on two elements: our PERFORMANCE and your CONFIDENCE. *We know the one will produce the other.*

Sincerely yours
Charles Fisher, C.L.U.
President

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The College of Medicine Another Great Step From 1904

ARNOLD H. DYSTERHEFT, M.D.
PRESIDENT
ARIZONA MEDICAL ASSOCIATION

The saga of medical education in the United States traverses hand in hand with organized medicine and medical associations from the time the American Medical Association was organized in 1847. The unfortunate status of medical education in the States was recognized by the founding members; yet, nothing concrete was accomplished by the AMA until after its reorganization in 1901 into its present constituent member relationship. The Council on Medical Education established in 1904 portended the urgent need for upgrading the education of physicians and the elimination of sectarianism, quackery and unscrupulous behavior in their ranks.

In 1911, at the instance of the Carnegie Foundation for the Advancement of Teaching, Abraham Flexner made two close and comprehensive studies of the status of medical education at home and abroad. His report was made public with the assistance of the AMA, and his strictures of American conditions excited a storm of comment and criticism. Nevertheless, his descriptions of what he saw were truthful, sincere and, therefore, authoritative. Many inferior medical schools brought face to face with the fact that "An unpleasant truth is better than a pleasant falsehood" doubtless resented an invitation to go out of business if they could not improve themselves. By the year 1920 there were eighty-eight accredited institutions remaining from an original group of over one hundred and fifty.

From this period on to the present, continued enlightenment in medical education exists.

This month the University of Arizona College of Medicine, joining the other accredited schools of medicine in the United States, opens its doors to its first class of thirty-two students.

Modern medical education has its foundation in the laboratory. The teaching of medicine as a science is of larger scope than its practice. With the gradual assemblage of specialties and subspecialties, the teachers must recognize variance of average to brilliance of performance in students who must come into contact with the actual working facts and experiences necessary for their complete education. In the words of Wunderlich, "Wherever the art of medicine is loved there also is love for humanity."

The aim of modern medicine coordinates with the advancement of all the sciences in the prediction and control of phenomena, the prevention and control of disease. Medicine can and should have no fairer ideal than that of the beautiful sentence of Minot, "We have enthroned science on imagination, but we have crowned her with modesty for she is at once the reality of human power and the personification of human fallibility."

ARIZONA BOARD OF REGENTS

FROM LEFT, DR. PAUL L. SINGER, PHOENIX; NORMAN G. SHARBER, FLAGSTAFF; LEON LEVY, TUCSON; DR. RICHARD A. HARVILL, PRESIDENT OF THE UNIVERSITY OF ARIZONA, TUCSON; BOARD PRESIDENT GEORGE W. CHAMBERS, TUCSON; ELWOOD W. BRADFORD, YUMA; ARTHUR B. SCHELLENBERG, PHOENIX; MRS. NORMA BARR ROCKFELLOW, PRESCOTT; AND WESLEY P.GOSS, SUPERIOR. SHOWN BELOW ARE GOVERNOR JACK WILLIAMS AND STATE SUPERINTENDENT OF PUBLIC INSTRUCTION SARAH FOLSOM, EX-OFFICIO MEMBERS OF THE BOARD.

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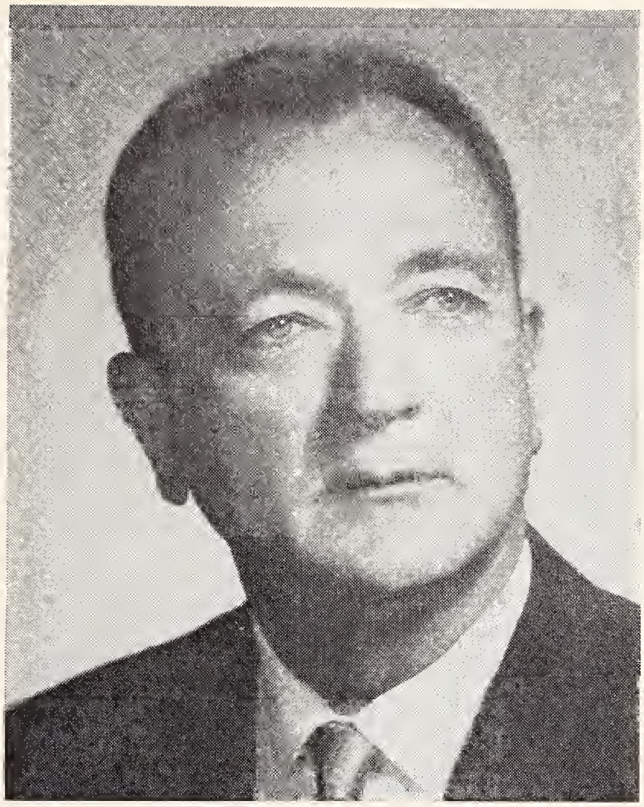


AN OPEN LETTER TO ASSOCIATION MEMBERS

On behalf of the University of Arizona, I am pleased to have this opportunity to acknowledge the recognition which the Arizona Medical Association is giving to the University by dedicating this issue of ARIZONA MEDICINE to the new College of Medicine. Since 1885, when the University was established as the land-grant institution for the State of Arizona, there have been many who have looked forward to the opportunity of making available a full program of education in the health sciences. With the arrival of the College of Medicine on this campus that aspiration is now being realized.

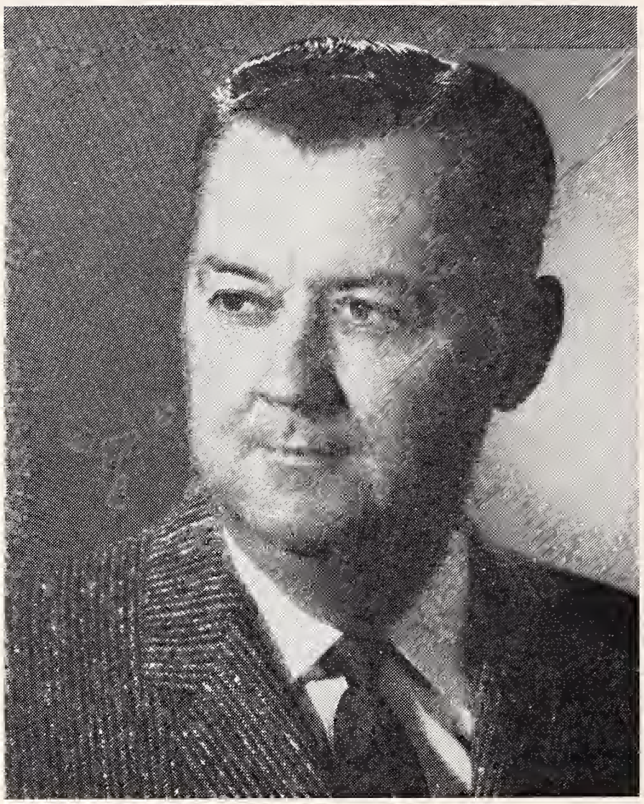
The members of the faculty of the new College who have recently arrived have brought interests that are adding a fine new dimension to the University campus by serving as a stimulus to the appearance of new research and educational programs in many of the existing colleges. This is especially true in the Colleges of Nursing, Pharmacy, Agriculture and Engineering, although expressions of interest will undoubtedly appear in other colleges as well. At the same time, the stimulus which other faculties provide the faculty of medicine will prove to be equally beneficial. It is this productive interchange that constitutes one of the most important reasons that it is preferable for a college of medicine to be developed in the university atmosphere.

As members of the Arizona Medical Association you should feel both pleased and proud of the role you have played in the past decade or more toward the establishment of a medical school in Arizona. No other group has such a long and consistent record of interest and support. When leadership was required in these considerations, your group provided it. I am confident that, without your efforts, Arizona would not have taken its place beside the other 42 states in which medical schools are located.

The College of Medicine will inevitably become a focal point for the health sciences. We hope that the members of the Arizona Medical Association will avail themselves of the educational programs and capabilities the developing medical center will provide. We also hope that you will continue to assist us in our efforts to develop new programs that will be useful to the medical profession in the future.

CONCEPTION, GESTATION AND BIRTH OF THE UNIVERSITY OF ARIZONA COLLEGE OF MEDICINE

A Historical Review



DERMONT W. MELICK, M.D.

The following is an attempt to summarize for the membership of the Arizona Medical Association the events leading up to and resulting in the accomplishment of the establishment of a medical school in the State of Arizona. In reviewing my voluminous accumulated notes, newspaper articles and especially certain meetings of the Maricopa County Medical Society, I found episodes that could be categorized as headaches, heartaches and misunderstandings out of the ordinary. I found charges and countercharges of distortion of facts, preconception of conclusions, and improper weighing of statistics. Occasionally personal idiosyncrasies were injected into the pattern. The battle of the North and the South was re-fought with vehemence. Charges of provincialism were a recurring image on this canvas of kaleidoscopic change. Proper attention to all of these facets would call for a full length novel in the pages of Arizona Medicine. I have neither the ability nor the inclination to attempt it. The following cuts the corners as closely as possible and still brings to you a full picture of events as they occurred in chronological sequence.

THE ARIZONA MEDICAL ASSOCIATION, during the Presidency of Dr. Harold W. Kohl, Sr. (1948), expressed an interest in gathering information regarding the possibility for a medical school in the State of Arizona. Dr. Frank J. Milloy, then Secretary of the Association, sent inquiries to the Deans of all two-year medical schools. He received five replies and these replies can be summarized by quoting from the letter of Dean W. R. Berryhill, University of North Carolina — "I cannot refrain from advising you as strongly as possible not to undertake the establishment of a school of medicine giving only the first two years."

At a later date, Dr. Palmer Dysart acting for the Maricopa County Medical Society conducted an investigation which included an interview with Mrs. Ana Frohmiller (then State Auditor) and the conclusion he reached was it would cost ten million dollars ($10,000,000.00) for a physical plant alone. Dr. Dysart emphasized that he made no attempt to estimate faculty salaries or the cost of yearly maintenance of such a school. He believed and so did everyone else the figure of ten million dollars was of sufficient magnitude to discourage serious consideration of a medical school at that time.

In 1951, the Maricopa County Medical Society again expressed an interest in the possibility of a medical school for Arizona. A committee* after thorough investigation submitted to the membership: THE REPORT OF THE COMMITTEE ON ADMISSION OF ARIZONA STUDENTS TO MEDICAL SCHOOLS. The final recommendations were: 1. It would seem financially impossible to organize a medical school in Arizona at the present time. 2. Some long-range plan should be initiated to provide medical education for graduates of our state schools who wish to study medicine. This might be accomplished by a subsidy plan or a scholarship plan.

In 1953, the recommendation of this committee came to fruition with the implementation of the student exchange program of the WESTERN INTERSTATE COMMISSION FOR HIGHER EDUCATION. This was and still is a subsidy program and it immediately began to do a satisfactory job in meeting the needs of the students of Arizona regarding medical education. For a period of three years this program satisfied everyone. A medical school for Arizona was certainly not a closed subject and this was also recognized by everyone.

At the Sixty-third Annual Convention of the Arizona Medical Association in April of 1954, a paper was presented by a member of the association entitled: A MEDICAL SCHOOL FOR ARIZONA?* The conclusions of that paper as garnered from the statistics then available were: "It would appear that Arizona does not have the population or the money to support a medical school at this time. If trends in population continue, and the State of Arizona through its legislators can properly assume the large financial obligation necessary to build and maintain a medical school, it might be predicted the year 1970 would see the introduction of legislation for such a school. Presuming it will take five years to enact such legislation**; three years to assemble the faculty and construct the necessary buildings; then the first student should enter the medical school in the fall of 1978."

THE AMERICAN ASSOCIATION OF MEDICAL COLLEGES re-opened this latent interest when they brought forth a resolution as follows: "The Association of American Medical Colleges encourages Universities with strong leadership and necessary resources to establish new programs of medical education which would offer the first two years of a four-year medical course."

The Arizona Medical Association took cognizance of this pronouncement and promptly appointed a medical school committee.*** The prime objective of this committee, as stated at that time, was to gather information and facts for the members of the Arizona Medical Association so their questions and questions of legislators or other interested individuals could be answered when inquiries were made regarding the feasibility of a medical school in Arizona. Leaders of the Arizona Legislature at that juncture also appointed a medical school committee. Thus a two-pronged attack on the problem was launched. It was believed that each committee would act as a supplement to the other in such a way that the end result would be the accumulation of mutually beneficial information. Word was passed to the members of the Arizona Medical Association as follows: "For the past few years there has been a slow-burning enthusiasm among some members of the Arizona Medical Association for the establishment of a medical school in Arizona. In order that enthusiasm be not supplanted by emotional thinking, the Arizona Medical Association has decided to gather some facts for the membership. It is emphasized that the Arizona Medical Association is not, at this time anyway, promoting a medical school for the State of Arizona. The medical school committee is to present facts in order that a midpoint of understanding can be had for two groups. One group of our members is convinced that Arizona should have a medical school established in the immediate future. They are satisfied that a two-year medical school would be an adequate beginning. These individuals also believe that the ability to teach medical school students lies well within the capability of a number of individuals within our medical association membership. There is another group of members who believe that Arizona is not ready for a medical school because of the enormous expense and our small population. This second group also believes that teaching in a medical school is a full-time job and a medical school in Arizona would require the importation for the most part, of full-time teachers for the medical school."

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*The following doctors served: Hayes Caldwell, (C) W. A. Brewer, Wm. Cleveland, Martin B. Crow, Harry Cumming, Karl Harris, Paul McFarland, Yukio Miyauchi, Phillip Rice, Alvin Swenson, Audrey Glenn Urry, Lowell Wormley.

*Subsequently published in ARIZONA MEDICINE, January 1955, Vol. 12, pp. 18-22.

**In those days such things were accomplished at a rather slow tempo characterized by deliberation in the extreme.

***Medical School Committee for 1956, Drs. Hamer, Thayer Neubauer, Kohl, Melick (C).

It was soon obvious to the members of the medical school committee that these two groups had one thing in common. The common denominator was the complete lack of facts upon which either group could base their contentions either pro or con. It was therefore believed that the caution "ideas without facts often lead to action without reason" made it doubly important that the medical school committee get the facts together for the enlightenment of its membership. For another two-year period everything remained calm and serene and the fact gathering committees worked diligently.*

The Western Interstate Commission for Higher Education was vitally concerned about the overall problem in the Western states and they announced that a study had been launched under the title "THE WEST'S MEDICAL MANPOWER NEEDS." Therefore two separate studies in the State of Arizona were underway and one regional study group was also in the process of gathering pertinent facts.

At this juncture a philanthropist residing near Phoenix offered to donate $565,000.00, if a two-year medical school was established forthwith (or not later than 1960) at Arizona State College (now Arizona State University) in Tempe, Arizona. This caused some consternation among the members of both medical school committees as well as within the Board of Regents of the State Universities. The Board of Regents was importuned by interested Phoenix boosters to approve this offer without delay. In July of 1958, the Board of Regents conducted a hearing in an attempt to resolve the mounting pressure for establishment of a medical school. From this hearing the Board of Regents concluded that a great deal of additional information must be documented before any decision could be reached. An outside impartial evaluation of the situation was decided upon and Dr. Russell Poor of the University of Florida was asked to visit Arizona by the Board of Regents. This he did and his report to them thereafter fortified the original opinion that adequate information for a sound decision was lacking. A request was then made by the Board of Regents to the Commonwealth Fund (at the suggestion of Dr. Poor) for a grant of money to conduct a proper and comprehensive study. Two officials from the Commonwealth Fund then visited Arizona and upon their recommendation Arizona was given a grant of $135,000.00 for the study. A somewhat confusing situation now arose. Also in 1958, a group of Phoenix physicians, joined by a few physicians in outlying communities, formed the ARIZONA STATE MEDICAL SCHOOL ORGANIZATION. This group was organized with the specific intent of promoting a medical school at Arizona State College (now Arizona State University) in Tempe. The confusion was compounded when it became apparent there would be in operation two organizations with names remarkably similar, the Arizona State Medical School Organization and the Arizona Medical Association Medical School Committee. Due to the fact that the actions and pronouncements of one organization might be mistakenly attributed to the other organization and, further, in view of obvious but definite divergence of opinion between these two regarding policies and intentions concerning medical education in the State of Arizona, plus the fact that such a situation would result in a dilemma for both and a credit to neither, it was suggested that the Arizona State Medical School Organization change its name. Whether the change was made is not remembered as the Arizona State Medical

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*Medical School Committee for 1957, Drs. Bate, Matthiesen, Chesser, Neubauer, Melick (C). Medical School Committee for 1958, Drs. Neubauer, Kohl, Hugh Thompson, Robbins, Jarrett, John Green, Wallace Reed, Shupe, Oscar Thoeny, John Stanley, Walter Brazie, Melick (C).

School Organization took the route of old generals and simply faded away suffering from inanition and financial anemia.

During the interim and while the Board of Regents were interviewing candidates in order to pick a director for the medical school study, the Arizona Medical Association continued its pursuit of the problem by presenting to its membership a symposium on medical education. This was conducted for one day during the annual 1959 session of the Arizona Medical Association. The participating individuals included Deans of five different medical schools representing both two-year and four-year schools. In addition two physicians were asked to discuss the "Town and Gown problem." This symposium was published in booklet form and mailed to all members of the Arizona Medical Association. An introductory statement to the symposium booklet was as follows: "It is believed that the thoughts expressed and the facts presented herein should allow the most rabid medical school proponents and the most pessimistic detractors to meet on a common ground of understanding. The Arizona Medical Association confidently expects a rational and sane conclusion to the problem of a medical school for Arizona based on the conclusions as outlined in this symposium."

The Board of Regents picked Dr. Joseph Volker, director of research studies of the University of Alabama, (and now vice-president in charge of medical affairs in that institution) to conduct the medical school study. He gathered together an imposing array of medical educators as well as authorities in other diverse but related fields so that he could adequately encompass the task assigned to him. Thirteen individuals made up the National Advisory Board. In addition there was a liaison committee* of five members from the Arizona Medical Association. A citizens committee of fifty-three members was chosen from the state at large. From this overwhelming array of brains and talent there emerged a great deal of discussion and many hours of hard work. Dr. Volker and his task force took up residence in Phoenix. The study encompassed the greater portion of one year. Added to all this were ten top flight consultants who were given special assignments. This study was eventually published as The Arizona Medical School Study. In a preface to this volume Dr. Volker had this to say: "We have made an intensive and thorough going study of medical education in the State of Arizona but in addition we have done much more. This extra effort on our part was occasioned by the unanimous opinion of our study staff and its national advisory board that we should make our concern not only the isolated problem of a medical school for Arizona but the broader problem of the health of the residents of the State of Arizona. Although one of the immediate objectives in developing a medical school is to provide practitioners for treatment of the sick, the ultimate objective of medical education is to preserve individual and community health. To do this, Arizona must think far beyond the training of physicians. It must recognize the importance of the coordinated efforts of physicians and the allied health workers. The latter exceed in number, and approach in importance, the physician. Our observations reveal Arizona's manpower deficiencies in these fields are comparable to those in medicine. As a consequence, the program in health education should be increased as soon as possible to provide education for the physicians' co-workers. This should be accompanied by expansion of the state medical school to a group of state schools of the health sciences. Although the education of health practitioners and health researchers will be statewide, this perspective should be foremost in the minds of anyone in evaluating the recommendations which we are now presenting."

One of the problems that had concerned the medical school committee as noted in the beginning of this review had to do with two and four-year schools. Dr. Volker's special consultants gave this particular matter careful attention. It was their unanimous opinion that the indications for a four-year school were overwhelming. Very careful consideration was given to the most desirable location for such a four-year medical school. The national advisory board and everyone connected with the study were unanimous in favoring the location of the proposed medical school on the campus of the University of Arizona in Tucson.

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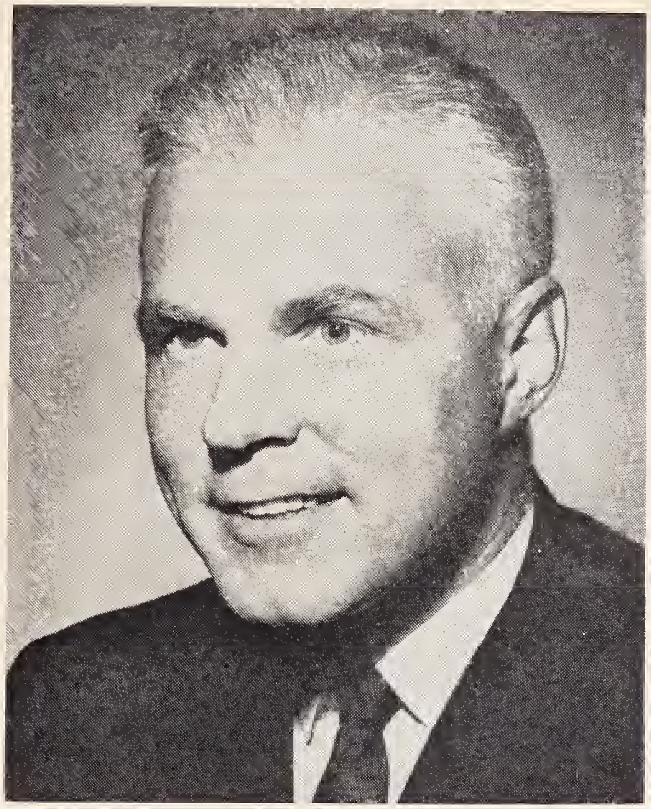
*Drs. Brewer (C), Beaton, Manning, Melick, Robbins.

The Volker Report was then presented to the Board of Regents. After an adequate lapse of time in order to digest its contents, they voted in favor of establishing the medical school at the University of Arizona in Tucson. To implement this decision they requested from the Arizona State Legislature an initial appropriation of $200,000.00. This request for monies was very unpopular as the Board of Regents had made the decision to ask for this money on a close split vote. For the sake of harmony the Board of Regents then withdrew this request and no further action was taken during that legislative session. Later a re-affirmation of the original decision of the Board of Regents resulted in a unanimous vote that a request should again go to the legislature but this time for the reduced sum of $160,000.00. The Arizona legislature acted favorably on this request and appropriated such a sum of money to the University of Arizona in order that initial steps might be taken to establish a school of medicine on the campus in Tucson.

In view of the fact there had been great consternation with regards to the expense of starting a medical school and also due to the concern still paramount among the citizens of Arizona, a group in Tucson headed up by William Mathews, publisher of the Arizona Daily Star, decided to make the attempt to raise the money by private donation. The Foundation for Arizona Medical Education (FAME) was incorporated and under the vigorous leadership of Mr. Mathews and the gratifying response from the citizens of Arizona a sum of $3,000,000.00 was pledged to this project. It is worthy of note that the Pima County Medical Society went on record to assess each member of their society $1,000.00 as their contribution to this money-raising effort. This $3,000,000.00 was then matched with federal funds (under the formula of 1 to 1.5) so that the initial monies available for the basic science building was $7,200,000.00. Dr. Merlin K. DuVal was selected by the Board of Regents as Dean. Dr. DuVal has called attention to the fact that the beginning of the Arizona medical school is unique in the raising of the initial funds from private sources. This has been a source of amazement to educators throughout the United States. The medical school will have an initial class of thirty-two students.



MERLIN K. DuVAL, M.D.
DEAN
COLLEGE OF MEDICINE

THE ARRIVAL AND OBJECTIVES OF THE COLLEGE OF MEDICINE

The University of Arizona was established in 1885 by an Act of the Legislative Assembly of the Territory of Arizona as a Land Grant College. For many years its component parts consisted of Colleges of Agriculture, Mines and Engineering and the Agricultural Experiment Station. Then, the University added Colleges of Architecture, Business and Public Administration, Education, Fine Arts, Law, Liberal Arts, Nursing, and Pharmacy to the original three Colleges. There is also a Graduate College and a College of Continuing Education. The College of Medicine is the most recent addition and will be the fourteenth College on the campus.

At the time the decision was made to begin a College of Medicine, the University enrollment stood at approximately 15,000 students. The University offered twenty-two Bachelor programs, twenty-four Masters programs, and sixteen Doctoral programs under the jurisdiction of a faculty of approximately 1,000 persons. Eighty-two per cent of the faculty had either a Master's or a Doctor's degree at that time. Approximately 400,000 square feet of research space were in active use on the campus of the University and the Library holdings were approaching 700,000 volumes. Medically-related programs were offered in Pharmacy, Nursing, Medical Technology, Physiology, Medical Microbiology, Rehabilitation and Clinical Psychology. Expenditures for budgeted and sponsored research on the Campus had reached a million dollars by that time.

It was considerations such as these that served as the basis for the decision of the Regents to start a College of Medicine on the campus of the University in Tucson. Additional strength was derived from the fact that the Tucson community included a fine number of well trained physicians who might serve as an important teaching arm of a College of Medicine. Of course, there were also expressions of interest from physicians in Phoenix and other communities in the possibility of participating in the educational programs of the College of Medicine and it seems likely that programs may be developed that will take advantage of these interests.

The University occupies approximately 150 acres of land in the heart of the city of Tucson, not much more than a mile from the business center of the community. The buildings are situated on a very lovely, cultivated, green and palm-lined campus which is laid out on an east-west axis through which runs the central mall. Academic buildings are aligned along the central mall with the supporting functions and structures on the periphery. Two blocks north of the eastern end of the campus is a second plot of University-owned property which is approximately 30 acres in size. The College of Medicine is located on that site. It is served by two of the major traffic arteries in Tucson, one of which runs east and west and the other north and south. Services and utilities are immediately available, as is public transportation. The site is surrounded by a lovely residential area which contains a variety of private and public housing. Expansion of the site, when it is later required, will be possible by the purchase of adjacent land, all of which is improved and zoned primarily for residential purposes. The College of Medicine will be situated on the plot in such a fashion that the Basic Sciences Building will be at the southern extremity of the site, as nearly contiguous with the main campus as possible. The Clinical Sciences Building and Teaching Hospital will be developed as a continuation of the Basic Medical Sciences Building in a northerly direction so that the public and automotive activities associated with the medical center will be oriented away from the University campus.

Elsewhere in this issue of ARIZONA MEDICINE, mention was made of the start of the building program for the College by means of a private gifts campaign. Briefly, the decision to start a College of Medicine coincided with the anticipated arrival of the "post-war baby crop" and, as a result, the University found it impossible to fund a new College of Medicine at the same time that it had to meet the capital construction requirements for additional classroom space. Therefore, the funds that were available from the legislature for capital construction were used to provide the classroom space, while the basic medical sciences building of the College of Medicine was funded by contributions from interested citizens together with matching funds from the U. S. Public Health Service. From these two sources, $7,300,000 was raised during 1964 and 1965. The design for the building was completed during that same period and ground was broken for the building by May of 1966. It was occupied late in the summer of 1967 just prior to the admission of the first class of students.

During the period of time when the Basic Sciences Building was being constructed, a request was entered to the state legislature for assistance toward the construction of a clinical sciences wing and teaching hospital. The legislature authorized the sale of $8 million in bonds, to be retired by an increase in student fees. These funds were later successfully matched with the U. S. Public Health Service in an amount equal to $15,500,000. Preliminary designs for the building were completed and the final working drawings are being prepared as the entering class arrives. Ground will be broken for this building before the entering class finishes its first semester.

When it became clear that the building program was going to be successfully funded, it was possible to direct the energies of the planning team into the field of faculty recruitment. It will be apparent, judging from the contributions elsewhere in this issue of ARIZONA MEDICINE from some of these faculty members, that we have had excellent success. The major appointees include the departmental chairmen in all of the traditional basic medical sciences, and the Directors of the Library, Multi-discipline Laboratories, and the Division of Animal Resources. Even as we celebrate the opening of the College, faculty recruitment is continuing in the administrative areas of the hospital and will shortly begin in the clinical sciences departments.

Some of the most interesting aspects of the interior of the Basic Medical Sciences Building will be described elsewhere in this issue of ARIZONA MEDICINE, as will also a profile of the entering class. However, it is appropriate to note here that a high level of demand has appeared within Arizona for places in the medical school and, with this in mind, the building program was designed to accommodate an entering class of 64 students. Further, the design of the building is such that it will permit a further expansion of the entering class with a minimum investment later when growth reaches a point to increase the demand for positions in the entering class.

The President of the University of Arizona has called for the development of a four-year program of medical education which will be of the best possible quality and will effectively prepare its graduates either to offer quality service in the community or to enter into graduate training programs. To comply with this request, the basic science departments of the medical school will collaborate with the graduate college of the University in programs leading to graduate degrees in the basic sciences, and the clinical departments will organize and supervise programs of graduate instruction leading to eligibility for specialty certification in those fields where there is a sufficient demand for the programs.

The faculty of the new College of Medicine has been giving a great deal of consideration to curriculum matters and has taken the position that some of the rigidities that were inherent in the traditional, lock-step medical curriculum which followed the Flexner Report, have inadvertently served as a substantial barrier to the effectiveness with which new knowledge is transmitted to the student. In this era of especially rapid advance in scientific knowledge, this is particularly true. Similarly, the faculty is impressed that the recent explosion of knowledge within each of the basic medical sciences can no longer be contained as part of the traditional individual discipline itself and, therefore, the future will see more interdisciplinary teaching. Furthermore, the faculty has concluded that that portion of the mushroomed body of knowledge that is specifically germane to the undergraduate student has not grown as fast as the total body of knowledge in each discipline with the result that, in the eyes of the student, less and less of it seems relevant to the study of clinical medicine.

Of course, the same phenomenon can be attributed to the clinical sciences. For example, each of the clinical sciences has now increased its own body of knowledge to such a remarkable extent that recognizable sub-specialties have appeared. Representation of these disciplines in the undergraduate medical curriculum serves to emphasize the fractionalization and compartmentalization of knowledge, which further confuses the student, because it assumes that the body of knowledge that constitutes medicine is no more nor less than the sum of all of these separate parts. The faculty has made a preliminary decision that it will attempt to de-emphasize sub-specialty medicine in the undergraduate years and, instead, attempt to emphasize the usefulness of collating general medical information so that it can be used in problem-solving; in other words, use the patient as an instructional "index" by means of which one gains entry into the larger body of sub-specialty knowledge.

It was with these precepts in mind that the faculty has established seven principles around which the curriculum will be structured. These may be stated as follows:

(1) There is a specific body of knowledge which encompasses the concepts and principles that each of the basic sciences contributes to the field of medicine and to which every medical student should be exposed.

(2) The curriculum should permit additional content from some of the individual basic sciences to be delivered, in greater depth, as "electives under guidance" — tailored to the career choice of the student, as late as possible in the curricular sequence.

(3) Since the student is in medical school to learn clinical medicine, all curriculum material should be invested with relevance to the human whenever it is possible to do so.

(4) Techniques should be developed which have as their object the introduction of the student to specialty medicine through the instrument of problem-solving as it relates to the patient, rather than by a sequential, guaranteed, lock-step exposure to individual clinical sub-specialties.

(5) The behavioral and social factors which relate to the study of the patient, and his reaction to the environment, should be emphasized.

(6) The curriculum should provide an opportunity for specific instruction in the use of library and other techniques for solving problems in the face of an expanding and changing body of knowledge.

(7) At all levels of instruction, additional efforts must be made to offer the student an opportunity to consider medicine as an instrument in society and to reflect on the several ways in which medical services may be distributed to component parts of that society.

There is an excellent intellectual and social climate in the State of Arizona for the arrival of a new College of Medicine at this time. The individual members of the faculty have been intentionally selected for their level of compatibility with a new school in the southwestern United States. As this faculty assembles and translates its own capabilities into a collective mission for the school, we are confident that they will build a record which will be a source of pride and satisfaction to the practicing members of the health profession as well as to all the citizens of Arizona.

FRED H. JOBUSCH, A.I.A.
ARCHITECT

BERNARD J. FRIEDMAN, A.I.A.
ARCHITECT

THE ARCHITECTS' PLANNING ROLE

Participating in the planning of a college of medicine is an interesting challenge. A medical science building is very complex. When a science teaching and research building is combined with a teaching hospital, the complexity of the problem is multiplied proportionately. In the case of the proposed College of Medicine at the University of Arizona, a planning team was established consisting of the architects, for design and planning technology; the Dean of the College of Medicine and his planning assistant, for programming space requirements and the scheduling of equipment to meet the needs of the entire curriculum; and members of the University Physical Plant Department and Comptroller's Office to assist with establishing the monetary budget requirements.

The architect and engineer firm of Friedman and Jobusch of Tucson, Arizona, was authorized by the University of Arizona, through the Director of the Physical Plant Department, Mr. Robert L. Houston, to proceed with preliminary studies preparatory to the planning of the proposed College of Medicine. Arrangements were made for the planning team to visit medical schools in order to envision the planning currently in use. Schools deemed appropriate to be visited and all arrangements for the visits were the responsibility of the then new Dean of the College of Medicine, Merlin K. DuVal, Jr., M.D. Accompanying the architects were the Director of the Physical Plant, and Philip H. Krutzsch, Ph.D., planning assistant for the Basic Sciences Building.

For the planning of the second phase, "Clinical Sciences Building and Teaching Hospital," the planning team retained the services of Ellerbe Architects of St. Paul, Minnesota, as consultants to the prime architects, Friedman and Jobusch. The Ellerbe firm are specialists in the field of Hospital and Medical School design and planning. Oscar A. Thorup, Jr., M.D., planning assistant and Head of the Department of Medicine of the College of Medicine, joined the planning team and assumed prime responsibility for the programming of the clinical facilities. Specialists in all phases of medical education were consulted.

After the consideration of several proposed sites for the College of Medicine, a locale of approximately 30 acres, located three blocks north of the northeast corner of the present campus, was selected. This University property can be remembered as the original polo field and R.O.T.C. drill field, which since World War II has been the site of married student housing. Master planning for the entire medical and paramedical facilities occupied the attention of the planning team as a necessary early step in design. The first phase of the proposed project provides for the first and second year medical students and consists of the Basic Sciences Building and Central Heating and Cooling Plant. The second phase, the Clinical Sciences Building and Teaching Hospital provides teaching space for the third and fourth year students, beds for patients, an out-patient clinic, and research and office space for the clinical faculty. In addition to the prime medical facilities it is anticipated that there will be a number of paramedical facilities. The first of these will be the new College of Nursing Building, now under construction adjacent to the Basic Sciences Building on the corner of Mabel Street and Martin Avenue, facing west on the medical school campus. The Basic Sciences Building is situated approximately 400 feet north of Mabel Street, between Martin and Warren Avenues, facing south. The proposed Clinical Sciences Building will adjoin the Basic Sciences Building on the north with the Teaching Hospital an integral part and extending farther to the north. When completed, the three basic components of the medical complex will be a single completely integrated building. The opportunity for future expansion, of prime consideration from the very first step of the overall plan, is provided for all three components. The Basic Sciences Building is expandable to the south, to the east, to the west, and vertically. The Clinical Sciences Building is expandable to the east and to the west. The Teaching Hospital is expandable to the north by the addition of twin towers, duplicating the nursing unit towers of the presently planned building.

One of the objectives of single importance is to provide the student with a unique learning area where he might live in proximity to all his intellectual exposures, i.e.: lectures, laboratories, and the Medical Library. The big question: why waste the student's time by scattering learning areas over a 200,000 square foot (approximately four acres) building? From this premise evolved the geographically-constricted multi-discipline laboratory. This departure is a far cry from the departmental laboratory that requires much foot-travel and time on the part of the student, and after study is completed, leaves the laboratory lonesomely unoccupied many months of the learning year.

The Basic Sciences Building is planned as two separate but integrally coordinated units. The smaller of the two is designated as the Multidiscipline Wing, consisting of three floors, and containing the Student areas. The Main Wing of the Basic Sciences Building, from the fourth floor upward, houses the departmental research laboratories and faculty offices. The experimental animal quarters occupy the first floor of the Main Wing, with expansion into the first floor area of the Clinical Sciences Building, to be constructed as part of phase two of the program. Also on the first floor of the Main Wing are the anatomical preparatory areas, receiving and storage areas, and the mechanical equipment area. The Medical Library and administration area and offices are on the second floor with additional library area provided on the third floor.

The Basic Sciences Building is a complete teaching and research facility fulfilling the needs of the student during his first two years of study.

During the initial planning stage, particular attention was directed toward the integration of the Basic Sciences Building with second phase design of the Clinical Sciences Building and Teaching Hospital. The overall concept of planning as well as the exterior design of the entire Medical School Complex was formulated during the initial planning of the project.

Of prime importance in the planning of the Clinical Sciences Building and Teaching Hospital is the complete coordination with the departmental areas planned for the Basic Sciences Building. Continuity of planning is made easier because the preliminary planning of phase two is concurrent with the preparation of working drawings and specifications for phase one. Adjustments of departmental area assignments helped to accomplish this continuity. The animal quarters, for example, are planned in such a manner that expansion into the Clinical Sciences Building involves nothing more than removing a wall and adding a couple of doors. Similarly, expansion of the Medical Library on the second and third floors of the Clinical Sciences Building was pre-planned during the design of the Basic Sciences Building.

The relationship of specific functions of the disciplines throughout the Medical Complex are completely coordinated by horizontal stratification. For example, the fourth floor relates the departments of Physiology and Anatomy in the Basic Sciences Building with the research laboratories and out-patient clinics of Surgical Specialties and Anesthesia departments in the Clinical Sciences Building and two Surgical Nursing units in the Teaching Hospital. The second floor of the Clinical Sciences Building and Teaching Hospital is planned for the public; that is, the visitors, the entering hospital patient, the person requiring out-patient treatment, as well as for the employee during off-duty hours. The main lobby and waiting rooms on the second floor are planned in order that the public can enter directly from the entrance drive and parking areas at street level. A pharmacy for the public is located in the lobby, along with the accounting offices and insurance data center. A large cafeteria and dining room are located on the west portion of the second floor, easily accessible from all areas of the entire complex. Other services provided on the second floor are the personnel department, the nursing administration area, the mailroom, an auditorium seating 350 persons, an educational resources area adjacent to the auditorium, so planned that the inter-relationship of the two areas are utilized with the greatest efficiency. A family services area is provided near the main lobby for the comfort of the hospital patient's family, affording complete privacy during a period of emotional stress. For those employees having young children, a day nursery is provided for the care of infants and pre-school children.

An extensive out-patient clinic is planned to occupy the east half of the third through the eighth floors of the Clinical Sciences Building. The same continuity of planning is basic to the out-patient clinic as it is for the entire complex. On each floor, the west half of the Clinical Sciences Building is devoted to faculty laboratories and offices relating to the discipline of treatment extended in the out-patient clinic. Similarly, as was stated earlier, each floor of the Clinical Sciences Building is devoted to the discipline of treatment extending into the Teaching Hospital. The third floor of the Teaching Hospital is assigned to Pediatrics, one nursing unit of 26 beds for surgical patients, the other nursing unit of 8 bassinets and 36 cribs for the young and very young medical patient.

There are twelve nursing units in the Teaching Hospital, on the third through the eighth floors, two units to each floor. Each unit, with the exception of obstetrics and the Intensive Care Units, is designed similarly. Each nursing floor is designed in order that the two nursing units are independent of each other, but are served by an inter-connecting corridor common to both. The nursing unit is described as a circle within a square, with the nursing station located in the center of the circle, surrounded by the patient rooms. There is no corridor, per se, in the nursing unit, and every patient is visible from the nursing station. Traffic for the nurses and aides is kept to a minimum with this arrangement, and the patient, in like manner, always feels that he is in sight of the nurse. In the connecting wing between the nursing units are services for clean and dirty linen, with a laundry chute directly to the laundry; food service receiving area, with a separate dirty tray sending area, served by vertical lifts and trayveyor, directly to the kitchen and dish-washing area. Student charting rooms, conference rooms, faculty offices, and doctors' day rooms are also located here and along the corridor leading to the clinic area and

BEFORE

DURING

TODAY

TOMORROW

Clinical Sciences Building.

General and specialized surgery is accommodated directly under the nursing units on the first floor, and is a complex of six medical and one dental surgery suites. Also on the first floor, and so designed that supporting services to surgery are accomplished with a maximum of efficiency, are the general chemistry and pathology laboratories for clinical pathology, the diagnostic and therapeutic radiology suite, and the anesthesiology suite. The emergency area is located on the first floor, readily accessible to surgery and other ancillary facilities permitting patient entry on the ground level from the service and ambulance compound.

Radiation therapy and the department of nuclear medicine are located below ground in the Clinical Sciences Building in order to provide maximum public protection from Beta and Gamma rays. Inhalation therapy, morgue and autopsy laboratories, general shops and housekeeping, central stores, laundry, general pharmacy and medical records and storage, are also on this floor. The telephone switchboard and equipment room for the entire College of Medicine is located in the basement of the Teaching Hospital Building, with provision for future expansion. The mechanical equipment servicing both the Clinical Sciences Building and Teaching Hospital is located in a large area of the basement as well as in a penthouse on the roof of the building.

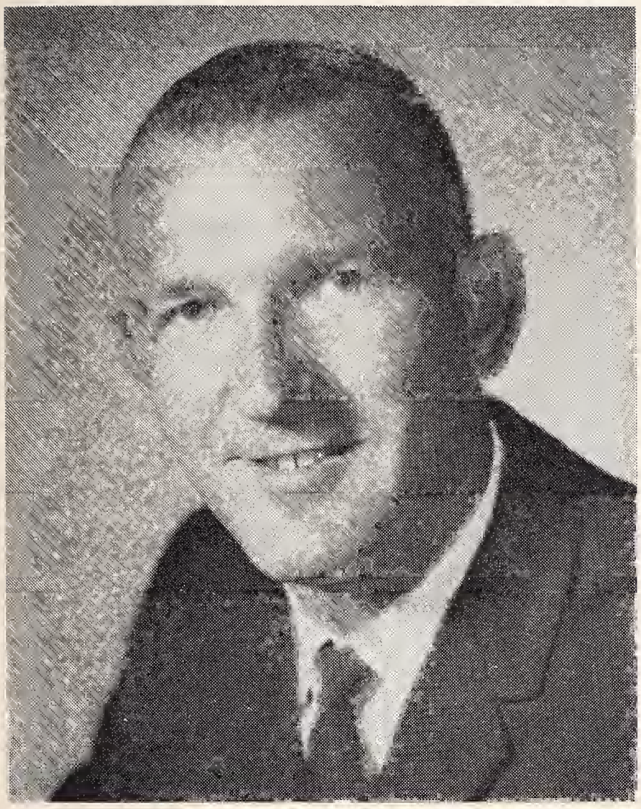
Carefully planned vertical transportation providing direct access for the public and outpatients to the clinic and hospital areas is imperative. Service elevators are located outside the public corridor areas to assure their accessibility at all times. A large elevator lobby adjacent to the north side of the main lobby, and accommodating six passenger elevators, will serve to eliminate public cross-traffic at the second floor level. At each of the upper floors, the respective public elevator lobby is adjacent to the out-patient clinic on that floor. Visitors to the Hospital use the same elevators, and reach the Nursing Units by traversing, in one direction with no turns, the main north-south corridor which is the "Main Street" for the entire Medical Center. Service elevators for specific uses have been strategically located in areas of greatest need.

Since the entire Medical School is designed as one building, there are no strong lines of demarcation that would indicate the complex is really three buildings in one. Red brick, matching in color and texture the brick used on the main campus of the University, and pre-cast concrete panels enclose the structure in a monumental contemporary style of architecture. The Multi-discipline Wing is windowless except for the first floor Student Center area, the brick laid in alternating patterns of flemish bond and running bond, topped with an interestingly-shaped coping of pre-cast concrete. The Main Wing of the Basic Sciences Building, the Clinical Sciences Building and the Teaching Hospital have the first three floors enclosed with a running bond pattern of red brick that provides a uniformly integrated base for the building. Deep reveals in the pre-cast concrete panels provide protection to the Solar-gray glazed windows, permitting the bright Arizona sun to form interesting patterns of light and shade across the facade.

The Central Heating and Cooling Plant is compatible in design with the Main Building, using the same red brick and similarly designed pre-cast concrete panels to enclose the structural steel and concrete structure. The "Plant" is located approximately 900 feet due west of the Teaching Hospital, near the west boundary of the site. This remote location was selected in the initial master-plan stage of the project, so that it will be possible to plan other paramedical facilities immediately adjacent to the present building. A system of underground utility tunnels connects the Central Heating and Cooling Plant to the Main Building and the new College of Nursing Building. Provision is made for the connection of future buildings onto the utility tunnel, as well as for expansion of the "Plant" as the need arises.

The task of designing the College of Medicine buildings for the University of Arizona would have been interminable for the architects, Bernard Friedman and Fred Jobusch, without the combined knowledge and experience of the entire planning team. The Ellerbe Architects contributed immeasurably to the programming and planning of the Clinical Sciences Building and Teaching Hospital, incorporating a number of unique features to the design, in particular, the nursing units. In charge of architectural design for the project, cooperating with Ellerbe Architects, is James H. Hockings, architect with the firm of Friedman and Jobusch.

PHYSICAL PLANT SERVICES



JOHN T. McGHEE, B.S.
ASSISTANT DIRECTOR OF
PHYSICAL PLANT SERVICES

In order to implement superior programs in teaching and research, it is necessary that the physical environment most suitable to these activities be ideally planned, constructed, maintained and constantly improved. In the many-faceted and ever-changing field of medical science education, the fulfillment of these basic tenets presents a tremendous challenge to those within and without the medical profession.

At the College of Medicine, as part of the University of Arizona, the functions of planning, construction, maintenance and service operations become the responsibility and prime concern of the Department of Physical Plant. This service organization under Robert L. Houston, Director, and John B. Trimble, Associate Director, is charged by the University Administration with providing and maintaining the total University environment including buildings, grounds, equipment, utilities and systems.

To most expeditiously service the exacting requirements of the Medical School Campus in fulfilling this responsibility, Director Houston has created a satellite Physical Plant operation, headed by John T. McGhee, Assistant Director of Physical Plant. This neophyte branch, with assistance from the parent organization, will provide total Physical Plant services in the areas of planning and construction, maintenance and non-medical operations to the College of Medicine from a location within the Medical School itself.

PLANNING AND CONSTRUCTION

The planning, programming, scheduling and construction of the unique and complex facilities required to house the activities of a modern Medical School is a momentous undertaking, requiring skills and services of a great many persons with a variety of training and experience. Coordination of the activities of these people toward the common goal of realization of the completed facility is provided by the Physical Plant through the services of professional personnel. Performing this vital function for the College of Medicine is Mr. McGhee, a registered Professional Engineer, and Kenneth R. Norling, a registered Architect.

In order to translate the functional requirements and relationships of the many disciplines and departments comprising the total College of Medicine into a physical being of bricks and mortar, the coordinator encompasses all phases of the project. Providing liaison between the College of Medicine planners and the Architect in programming and planning the facility is but a single facet of the coordinator's task. He must also contribute in the preparation of the initial construction grant applications and subsequent submittals; help formulate project and construction budgets; be familiar with, and adhere to the many federal regulations and requirements inherent in joint federal agency construction grants; assist in site planning and development; provide necessary site and soil surveys; review working drawings and specifications to assure compliance with program requirements and University construction standards; and expedite bidding procedures and contract award.

Administration of the project during the construction phase is a prime Physical Plant responsibility. Here the coordinator concerns himself with such activities as Owner-Architect relations in supervision and inspection of the facility under construction; approving and processing change orders and payment requests; expediting job progress; receiving, checking and submitting to the applicable agency all required federal submittals including contractor payrolls and insurance; assisting in the compilation, approval and purchasing of all movable equipment within the project; coordinating the final acceptance and occupancy of the facility, including placing and installation of equipment and telephones, final cleaning of the building and moving of the occupants to the new facility.

MAINTENANCE

Upon acceptance and occupancy of the completed project, continual maintenance, both preventative and operational, is necessary to assure optimal utilization of the entire facility for the longest possible period. In this highly complex scientific environment, many persons, well-trained, dedicated and proficient in the various building services and trades, must work in harmony to provide the utmost in service at minimal inconvenience and discomfort to the prime users of the facility. At the University of Arizona, complete environmental maintenance to site, buildings, equipment and systems is accomplished through the combined efforts of groundskeepers, building custodians, journeymen and technicians in the maintenance and technical shops, and their supervisors.

Competent supervisors, continually researching and experimenting with modern methods and equipment, must provide the inspiration and leadership to accomplish this end.

Grounds Maintenance

The extensive site developed under the Basic Sciences Building contract consists of landscaped areas, walks, patios, planters, fountains and parking lots.

Although maintenance activity has been minimized through proper tree and plant selection and provision of automatic sprinklers, intensive and varied grounds maintenance will be necessary to preserve and enhance the splendor of the outside environment.

Custodial Services

High standards of cleanliness and appearance will be attained in the Basic Sciences and Clinical Sciences Buildings, and in the Teaching Hospital, through the use of modern methods, equipment and techniques.

Cleaning will be accomplished primarily during the night or early morning hours, and will follow predetermined cleaning schedules involving daily, weekly and monthly cleaning requirements under the direction of Don R. Crabtree, Assistant Custodial Supervisor for the University.

The judicious selection of high-quality materials and finishes incorporated into the building, in keeping with past experiences on the main University campus, should prove invaluable in minimizing future cleaning and maintenance efforts.

Maintenance Shops

Craftsmen, skilled in all aspects of the building trades, are necessary to provide complete maintenance service and accomplish any minor remodeling or fabrication necessary to the functional operation of the complex and modern Medical School.

Henry B. Steffens, currently being utilized as clerk-of-the-works to aid in the inspection of Medical Campus projects and to become familiar with their construction, will direct the activities of maintenance shop personnel at the College of Medicine upon completion of the facility.

Preventative maintenance schedules, for all phases of the building and equipment, are being developed to insure that the periodic inspection and routine maintenance, so necessary to reduce emergency breakdowns and to prolong the life of the building, equipment and complex systems, will be accomplished.

Technical Shops

Central technical shops, including electronics and metal working, have been provided in the Basic Sciences Building. Such shops, manned by trained and experienced technicians, will repair and maintain equipment, and will improvise and fabricate the unique apparatus and special instruments required for research and teaching.

OPERATIONS

Aside from the more apparent obligations of the Physical Plant in the areas of planning, construction and maintenance, certain basic operational services must also be provided. These include operation of the heating and cooling plant, trash removal and disposal, communications, security and safety, garage and motor pool, and miscellaneous services.

Heating and Cooling Plant

A new central heating and cooling plant, the utility nerve center of the entire Medical School Campus, has been provided under the Basic Sciences project, and will be expanded during the Clinical Sciences and Teaching Hospital contract.

Jean Casey, with many years experience in plant operation, was retained during construction to inspect and become familiar with installation of the complex equipment and systems within the plant, and will supervise the around-the-clock operation of this facility.

In order to assure maximum environmental support, a supervisory data center, permitting accurate operational supervision and control of the entire air conditioning and refrigeration systems from a central location within the heating and cooling plant, has been provided in the Basic Sciences contract. This control system will be expanded to monitor temperatures, humidity and pressures from selected points within the entire medical complex.

Trash

The magnitude and complexity of waste materials generated in the operation of a complete medical facility create extreme problems in handling and disposal. These problems were anticipated, studied and hopefully resolved through application of the latest engineering principles in incinerator design. The incinerator center in the Basic Sciences Building houses three separate incinerators, each designed for its own specific purpose. Trained and competent operators will be responsible for the operation and cleaning of this equipment.

Communications

Initial installation of telephone equipment and later requests for additional instruments, lines and extensions are routed through Physical Plant to the local telephone utility. Inclusion of the Basic Sciences Building into the main campus Centrex system will negate the need for a telephone switchboard and complement of operators in the initial phase, but installation of a PBX system in the Teaching Hospital will require provision of this service.

Security and Safety

The total concept of security in a Medical School encompasses such areas as police and fire protection, building security, key control, traffic and parking control, civil defense, and safety. Professional personnel, thoroughly trained in these areas, will be provided to the College of Medicine by the Physical Plant to accomplish complete security.

Motor Pool

Motor pool and garage services will be provided by the University Motor Pool as required by the expanding teaching and research staff.

Miscellaneous Services

As the service arm of the University of Arizona, the Physical Plant organization will undoubtedly be called upon to perform many additional services to the College of Medicine. The opportunity to provide such service, consequential or insignificant, will be welcomed, and will be undertaken and accomplished by personnel dedicated to the concept of service, their prime justification for existence.

OBJECTIVES AND GOALS

The excitement and enthusiasm generated by advent of the College of Medicine at the University of Arizona has permeated the ranks of the entire Physical Plant. To those fortunate enough to become directly involved in planning, constructing and maintaining the Medical School facilities, the road ahead is full of challenges and opportunities. Two main areas of endeavor stand out as immediate and long-range goals:

> To provide and maintain the ideal environment for fulfillment of the basic disciplines of teaching and research.
>
> Through application of sound engineering principles and continuing research and investigation, to accomplish efficiently and economically the primary mission of Physical Plant.

The basic philosophy of Physical Plant Administration at the University of Arizona, hinges on the words "professionalism" and "service." In the extremely complex society of today's institutions of medical education, the need for professionalism has become exceedingly apparent. The construction, care and operation of a multi-million dollar facility cannot be left to chance — the total Physical Plant concept must be accomplished with a highly trained, educated and professional staff, dedicated, determined and confident in their ability to provide complete service.

THE DIVISION OF ANIMAL RESOURCES

SAMUEL HODESSON, D.V.M., M.P.H.
DIRECTOR

Historical Background of the Animal in Research

The use of animals for the study of biological sciences and human medicine dates back to ancient history when the Egyptians attempted a study of genetics based on hair-coat color of the mouse. Today, it is difficult to discuss a major advance in the control of human disease, testing of new drugs and medicines, or the development of new or improved surgical procedures in which animal studies did not make a prominent contribution. Not until the end of World War II, however, did the scientific and medical professions take steps to develop an organization to improve the care and handling of animals used for research and teaching. A chronological listing of the advances made in this direction may be of interest:

(1) In 1950: The Animal Care Panel was founded in Chicago by a group of professional people interested in animal care. This organization of persons and institutions concerned with the production, care, and study of laboratory animals published the very important "Proceedings of the Animal Care Panel." The organization was recently renamed the Association for Advancement of Laboratory Animal Science, and the journal is now entitled "Laboratory Animal Care."

(2) In 1952: The Institute of Laboratory Animal Resources was founded by the National Academy of Sciences-National Research Council and serves as an advisory board in the field of laboratory animal supply and quality.

(3) In 1957: The American Veterinary Medical Association elevated the American College of Laboratory Animal Medicine to the status of a specialty board.

(4) In 1963: The first Guide for Laboratory Animal Facilities and Care was prepared by the Animal Facilities Standards Committee of the Animal Care Panel and was immediately adopted by the Institute of Laboratory Animal Resources.

(5) In 1966: The American Association for Accreditation of Laboratory Animal Care (AAALAC) was established by sixteen founding member institutions, including the American Medical Association and the American Veterin-

ary Medical Association. The goals of the AAALAC are to encourage optimal care for laboratory animals and to provide a mechanism for self-regulation by the scientific community.

In late 1966, these voluntary advances were followed by federal legislative action which resulted in Public Law 89-544 (the Laboratory Animal Welfare Act), further strengthening the drive for quality animal care. Public Law 89-544 has jurisdiction over the research animal during the procurement stage and until issued to the scientific investigator. The AAALAC program covers areas not touched upon by the Laboratory Animal Welfare Act, considering care of the animal from the time of issue to the scientific investigator until the conclusion of the project.

Thus, in a comparatively short span of time, machinery has been perfected for self-regulation and control of animal care in teaching and research.

Design

The design and construction of the Division of Animal Resources facility incorporates many advanced findings useful in high quality animal care that have appeared in recent years. All entry halls are separated from the outside by air locks. Air temperatures and humidity are completely controlled. Frequent changes of air and avoidance of recirculation insure against accumulation of odors. The flooring includes a continuous layer of an impervious synthetic resin over a water-proof membrane. The walls are covered with a water-proof synthetic substance which seals to the coved flooring material. A mechanical cage washer will efficiently clean and sanitize cages and equipment. A large autoclave will permit sterilization of cages and equipment when indicated. An incinerator and animal destructor permit safe and efficient disposal of all waste.

All animals entering the facility will be received in a quarantine area. Appropriate immunization procedures and measures to insure freedom from endo- and ecto-parasites will be carried out here. Rooms designed for the quarantine of sub-human primates and canines will safeguard these animals as well as their handlers during conditioning procedures. In short, every feasible precaution has been taken to protect the quality of the animal and provide for its special physiological requirements.

Philosophy and Mission

The traditional name, Vivarium, was avoided for the following reason: Webster's definition of vivarium is "an enclosure for keeping or raising and observing animals or plants indoors; esp: one for terrestrial animals." This, at best, is a description of one phase of the operation. Therefore, the more inclusive name, Animal Resources, was chosen in keeping with the precedent set by the National Institute of Laboratory Animal Resources.

The primary functions of the Division of Animal Resources are procurement of the proper species, strain and quality of animals in support of teaching and research, and provision for a high standard of care for such animals until the successful conclusion of the project. It is the firm conviction of those involved with animal usage in the University of Arizona College of Medicine that the needs of modern medical research and teaching demand a level of comfort, health, and well-being that exceeds the minimum demands of legal and humane agencies. For this reason, it is logical to expect that we will work in harmony with these agencies to achieve a single goal. By staying in advance of these minimum standards, the caliber of research is elevated rather than restricted.

Though animal procurement and care is the primary mission, it is not the sole mission. One of the essential ingredients for a successful operation is an efficient diagnostic laboratory upon which effective disease control measures may be based. The Division of Animal Resources facility includes a laboratory which will be equipped for work in hematology, clinical pathology, and microbiology. A well-designed autopsy room with an adjoining cold room will encourage postmortem examinations. Experience has proven that reliance upon hospital laboratories with their differing responsibilities and aims is far from an ideal arrangement. Therefore, plans for the future include a full-time medical technologist who will focus his entire attention on the problems of laboratory animals.

Teaching and Training

In the final analysis, the standards of care are determined by the animal caretaker — the man doing the feeding, watering and cleaning. His performance, to a great extent, controls the success of any research study involving animals. Technicians, employed by investigators and various departments, working in the animal rooms may also affect standards of caretaking. Therefore, a continuing training course on the technical level is planned for caretakers and technicians. This joint training program will help promote cooperation between these two groups. As course work becomes established and seasoned, it is hoped that qualified personnel from other non-profit research institutions may be invited to participate.

Assistance for investigators, medical students and graduates working with animals will be designed to solve individual problems. This will present an excellent opportunity for indoctrinating a fledgling scientist with the essential attitudes and skills for successful work with animals. As the scope of activities in the Division of Animal Resources broadens, a program designed to train veterinarians in the specialty of laboratory animal medicine will help fill an important need. Such a training program would, at the same time, enhance the performance of the Division of Animal Resources.

Research Surgery

The Division of Animal Resources includes a series of surgical theaters and the responsibility for their operation. Several operating rooms, each equipped to handle two independent surgical teams, plus a complete diagnostic x-ray room, are available. Plans for an expansion area, scheduled for completion along with the Clinical Sciences Building, include two additional operating rooms, a preparation room, and a post-operative room for surgical patients.

Professional consultation and guidance will be available for people using the surgical facilities. Anesthetic techniques must on occasion be tailored to meet a specific problem and, not infrequently, new surgical techniques must be developed to fulfil the needs of a particular study. The animal resources staff will be expected to contribute substantially in this area. These services will be utilized primarily by members of specialties other than surgery. However, an opportunity for the veterinarian to work with surgeons in animal surgery can be most stimulating and rewarding. Interactions of this kind offer an excellent opportunity for cooperation between the two professions.

The Medical Student

This discussion has but touched on the role of the Division of Animal Resources in the development of the individual graduating from the College of Medicine. The organization of the Multidiscipline Laboratories, discussed elsewhere in this issue of **Arizona Medicine**, offers a unique opportunity for the staff of the Division of Animal Resources to participate in the training of medical students. During the students' first two years, close cooperation between the head of the Multidiscipline Laboratories and the Director of the Division of Animal Resources will foster consideration for the animals' comfort and welfare. Responsibility for completion of the laboratory exercise without subjecting the animal to fear or pain will be encouraged. The quality of work performed and the benefit derived from the exercise will be enhanced by this attitude.

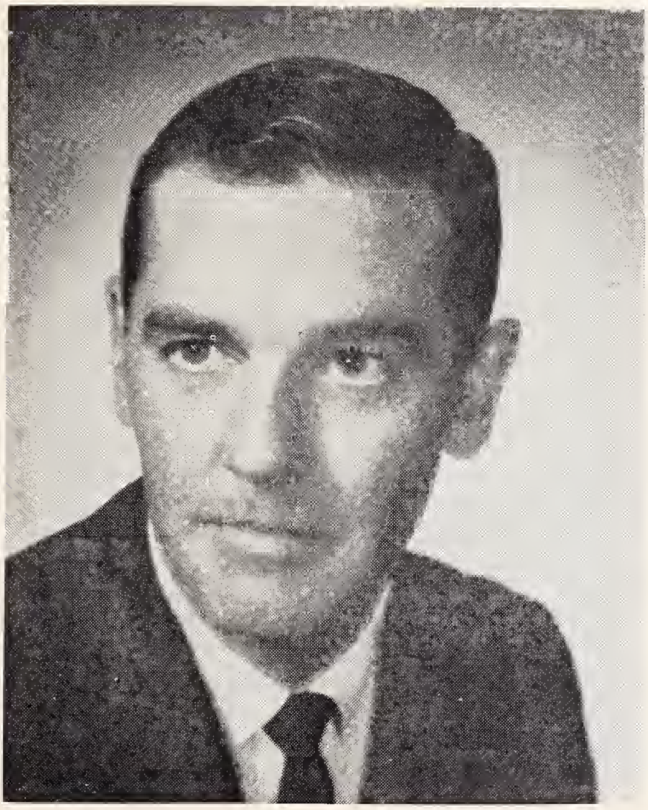
During the student's clinical years, he may undertake studies of special interest under the supervision of members of the faculty. Again, the staff of the Division of Animal Resources can guide the student toward the proper approach to working with animals and contribute toward the successful conclusion of the project.

Looking Forward

It is quite evident from the foregoing discussion that a veterinarian serving as Director of the Division of Animal Resources will be well occupied by his professional and administrative duties. Yet, countless problems relating to laboratory animal medicine are crying for solution and the animal facility of the College of Medicine is an excellent laboratory for the examination of these problems. Since disease control is a very important aspect of the work, the epidemiologic study of the diseases of animals in a laboratory environment should be an important avenue of investigation. Opportunities will develop for persons wishing to specialize in comparative pathology, clinical pathology and experimental surgery. These fields will permit a triple role in service, teaching and research. Going further into the future, study in the basic sciences could benefit from time spent in a laboratory animal facility, focused upon the laboratory animal itself.

It is hoped that everyone in the medical professions in Arizona will take a personal interest in the development and growth of the Division of Animal Resources in the College of Medicine. Every effort will be expended to insure that this interest will bring to each individual a measure of personal pride and satisfaction.

THE LIBRARY

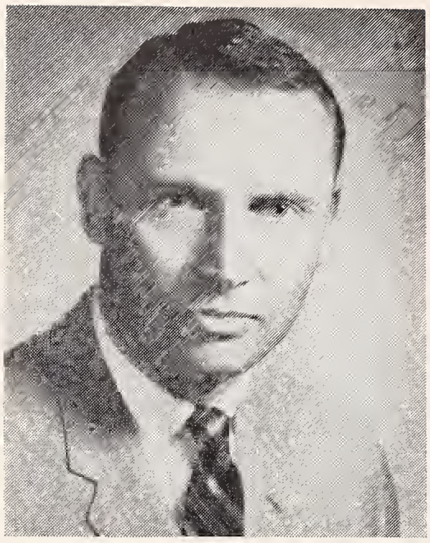


DAVID BISHOP, M.S.L.S.
LIBRARIAN

The library as a central learning resource in medical education has been uppermost in the minds of those responsible for planning the University of Arizona College of Medicine from the beginning. A philosophy of librarianship as a basic service and support for students, educators, researchers, and practitioners has been the guiding principle.

The initial planning for the College of Medicine Library was begun before the appearance of the first librarians on the scene, and the general design was decided upon, to give a central library with ease of access for all its potential users. Building programs were written for both the first phase of the Library, in the Basic Sciences wing, and for its later expansion into the Clinical Sciences wing, so that the final Library would have a total of some 30,000 sq. ft., for a book collection of from 100,000 to 120,000 volumes. In addition provision was made for special service areas, such as group studies, a microform reading room, photocopying, and facilities for eventual remote computer access.

In September 1965 work began on building the Library's collections, with the arrival on the scene of the first two librarians. David Bishop, the Librarian, came to Tucson from UCLA Biomedical Library where he had been Serials Librarian, after having served in that library as Dental Librarian in charge of building a library collection for the new UCLA School of Dentistry. Thomas Higdon came on staff at



THOMAS HIGDON, M.S.L.S.
CATALOG LIBRARIAN

the same time as Catalog Librarian, arriving from San Fernando Valley State College after many years of experience as a medical cataloger at the Los Angeles County Medical Association and the UCLA Biomedical Library. Both Messrs. Bishop and Higdon received their Masters' degrees in librarianship and their special training in medical bibliography at Columbia University and its College of Physicians and Surgeons.

MISS MIRIAM MILLER, M.S.L.S.
ACQUISITIONS LIBRARIAN

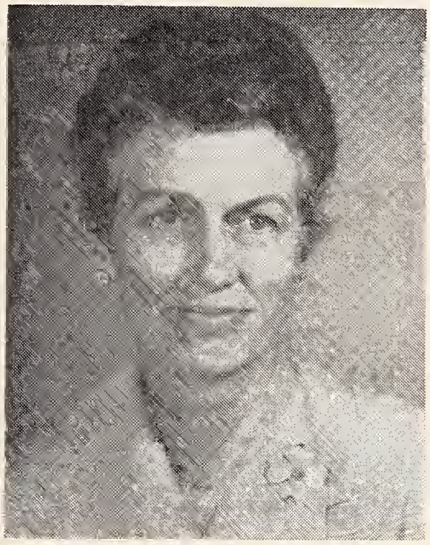
From the vantage point of a room in the Medical Education Building, replete with two chairs, a desk, and a folding table, Bishop and Higdon began the actual process of planning the makeup and organization of the Library. In October 1965, a third chair and card-table were added to the room, and Miss Miriam Miller joined the staff as Acquisitions Librarian, transferring from Reference duties in the Science Division of the University of Arizona Library. Miss Miller, formerly Supervisor of the Physical Therapy Dept. of Johns Hopkins Hospital, received her Master's degree in librarianship and her training in medical bibliography at UCLA, including practical training at the UCLA Biomedical Library.

The important first step was the selection of biomedical journals and other serials to be acquired by the Library, and the placing of orders for these titles so that subscriptions might start in January of 1966. At the same time a hundred and one library operations had to be carried out simultaneously, including such esoteric procedures as "pre-Cuttering" of serials to determine their eventual shelf locations, and such prosaic matters as collecting publishers' catalogs. Specifications had also to be written for library furnishings and equipment, much of which would be needed in temporary quarters for later re-use in the completed Library.

With the arrival of library materials imminent, it was necessary to find temporary quarters in which to house the Library. The most favorable answer seemed to be to use some of the quonset huts existing at Polo Village in the Southeast corner of the College of Medicine grounds. Consequently, in November 1965 the existing furniture and materials were moved from the Medical Education Building into three of the Polo Village quonset huts. Eventually, the Library expanded into five of the huts, and steel shelving and other library equipment was moved in. These quonsets, connected by an asphalt walk and cooled by evaporative coolers, were to be "home" for the Library for the next year.

The year 1966 saw the growth of the library collections from a few scattered publications to the nucleus of a bound-volume library. The 1500 serial publications began to come in from countries around the world, and journal backsets and medical monographs began to arrive from dealers in the U. S. and abroad. The empty quonsets began to fill with volumes, and the catalog with cards, and as the books grew so of necessity did the staff. We were fortunate in finding extremely capable and hardworking assistants. Among our first employees were Mrs. Sherry Beimer as Catalog Clerk, Mr. Philip Long as Bindery Clerk, and Mrs. Jane Hopkirk, later succeeded by Mrs. Jeane Fritz, as Library Secretary. Mr. John Hartz joined the staff as Acquisitions Clerk somewhat later, as did Mrs. Claudia Schwab as General Library Assistant, and Mr. Raul Delgado as our first Student Assistant.

By September of 1966 we were able to add a Serials Librarian to the staff as Assistant Acquisitions Librarian, and found for this position Mr. Gerald Johns, a graduate of the UCLA School of Library Service. It was not till July of 1967 that we had with us, as Assistant Catalog Librarian, Miss Jacqueline Kasper, a graduate of the USC Library School who came to us from Simpson College in Indianola, Iowa.



MRS. ELIZABETH HINKLE, M.L.S.
REFERENCE LIBRARIAN

The professional staff was rounded out in September 1967 by the appointment of the Reference Librarian, Mrs. Elizabeth Hinkle, and the Assistant Reference Librarian, Mrs. Kathryn Gloyd. Mrs. Hinkle came to us after a year of postgraduate science-library training at the University of Tennessee Medical Units in Memphis. A former R.N., Mrs. Hinkle received her M.L.S. from the University of Texas and has had many years of reference experience in a number of medical libraries in Texas. Mrs. Gloyd, with an M.S. in Plant Physiology from the University of Maryland and a B.S. in Librarianship from the University of Illinois, was formerly Librarian at the Chicago Academy of Science, and came to us from her most recent position as Senior Reference Librarian from the Science Division of the University of Arizona Library. Before joining our staff Mrs. Gloyd returned to the University of Illinois for special training in medical bibliography.

While it takes books to make a library, it also takes people, and without the dedication of this hardworking staff the Library would not have been possible. "Books" there were too, however, and in increasing abundance as serial volumes were returned from the bindery and new monographs were added to the shelves.

By the end of 1966 there were approximately 10,000 volumes bound and fully cataloged into the collection, arranged on the shelves by the National Library of Medicine (NLM) Classification and subject-organized in the card catalog by NLM's Medical Subject Headings (MeSH). The use of NLM Classification and MeSH for the collection keeps us in line with national practice, and organizes the library materials in the same way in the Library as they are in the NLM's *Index Medicus* and *Current Catalog*, and MEDLARS (Medical Literature Analysis and Retrieval System) computer-tape bibliographies. They also permit the constant updating of the collection's organization as new developments occur at the National Library of Medicine, in recognition of the changing biomedical scene.

At this time, with the quonsets filling, it was learned that plans were proceeding faster than had been anticipated for construction of the College of Nursing on the same site as the temporary Library quarters. It was therefore essential to move as soon as possible before the collection had grown even more. A second temporary "home" was found on N. 4th Avenue, in an office building that had formerly housed the Social Security offices in Tucson. By Christmas, 1966, the move was completed, and for the first time all sections of the Library were under one roof. The move proved to be a good practice run for the final move into permanent quarters in the College of Medicine in July and August of 1967.

The composition of the collection, as reflected in the 10,000 volumes present at the end of 1966, and the 20,000 volumes existent at the September 1967 opening, deserves some comment. With the main stress in medicine on current journal literature, the major portion of our acquisitions budget was put into acquiring this form of publication, and by the opening date the subscription list had grown to more than 1600 titles. In terms of bound volumes, a proportion of 3:1 for bound serials as compared with recent texts and monographs was aimed for and achieved. Special stress was placed on acquiring bibliographies, indexes, and other "reference" tools so that ready access could be had to the national biomedical library network when our own initial resources proved inadequate. Even when the collection will have grown to its optimum size it cannot be expected to meet more than 90% to 95% of demand, and this bibliographic armamentarium will be of continuing value.

Not all of the collection, happily, has had to be purchased, even with the generous monetary support of an anonymous donor, and of the Pima County Medical Society and the Arizona Dermatological Society. Cash donations have also been received from a Scottsdale and a Tucson physician and the Library has received Resource Grant funding from the National Library of Medicine.

We have been the recipients of much other thoughtful generosity, from both institutions and persons. Gifts have varied from 80 cartons of bound materials from the American College of Surgeons to single unbound issues of journals from physicians, as well as valuable personal libraries from the estates of deceased physicians, and many gifts of varying size from individuals both in and out of the medical profession, and both in and out of Arizona.

The cooperation of other libraries has also been unstinting. Through the good offices of the Science Division of the University of Arizona Library, and its existing holdings in the biomedical field, we have been able to use the world-wide resources of the Medical Library Association Exchange from the beginning. The Science Division, with the consent of the University Library, also transferred some 4000 bound volumes in the Summer of 1967 to the College of Medicine Library, primarily in the field of clinical medicine. The Science Division's extensive holdings in basic sciences materials have also permitted us to conserve our resources and avoid unnecessary duplication.

The support the College of Medicine Library has received from other medical libraries throughout the State has been equally munificent. Many of these libraries had for many years been keeping extra files of materials they were sure we would need, as indeed had the University of Arizona Library. The Veterans Administration hospital libraries in Phoenix and Tucson have been particularly helpful, as have been the libraries of St. Joseph's Hospital, Phoenix; St. Mary's Hospital, Tucson; the Maricopa County Medical Society Library, Phoenix; and Tucson Medical Center Library. A listing of all our friends would be impossible, as would a full expression of our gratitude to them. One outstanding "present" for medical librarianship throughout the State was the publication in March 1967, by the Special Libraries Division of the Arizona State Library Association, of the first *List of medical journals in Arizona*, which greatly facilitates the location of needed materials.

On the State level, we are happy to record also the helpful cooperation of the State Dept. of Health and the State Dept. of Library and Archives. On other levels of government, including county health departments, we have had equal help, and there is no doubt that the health sciences community of Arizona has a large stake in the College of Medicine Library.

The main stake in the Library, of course, is held by the students of the College of Medicine. They, and the teaching and research faculty of the College, will be the main users of the collection, and their needs will be the primary responsibility of the Library. It will be the strong secondary role of the Library, however, to support all health professions and biomedical users, on or off campus, in or out of the College and its environs. In 1969 the Library will assume a second primary function in serving the bibliographic needs of the College of Nursing students and faculty, in cooperation with the University Library and its Science Division.

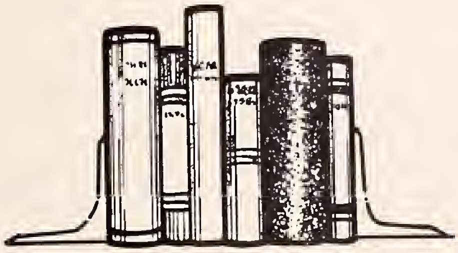
No medical library can exist in isolation any more than can a worker in the health professions. By its very existence the College of Medicine Library has joined the national biomedical library network. As a member of this network, our Library will have access to resources far beyond its walls, as well as a commitment to help others who need its own resources. This network is presently being formalized under the Medical Library Assistance Act of 1965, and medical library personnel through the State have formed a Medical Library Group of Arizona to further these designs. Within the next two years the College of Medicine Library will assume the role of a sub-regional resource library, with primary access to the collections of one of the nation's major biomedical libraries, and resulttant improved service to all Arizona health sciences personnel. The aim of such organization will be improved health care for all Americans, through the continuing education of the health professions in which medical libraries must play a central role.

This is but one augury for the future. Although the College of Medicine Library has developed along traditional lines, of necessity since the greatest need was for augmented medical-literature resources in Arizona, it has kept a close watch on developing communications technologies. The coming years will doubtless see a more "aggressive" role for the Library, especially as health care programs such as the Regional Medical Programs of the Heart Disease, Cancer, and Stroke Amendments come into being. The education of medical students is but the start of the Library's duty to provide continuing education resources to the health professions, and the day may not be far off when the library walls merely contain the physical resources, and their use is made more viable through extramural programs and facilities.

In health-science research, also, the Library will play an increasing role. Already its users have access to MEDLARS searches through regional centers, and this is but a promise of future developments. Through the pioneering efforts of the American Chemical Society, for example, biochemists throughout the country will be able to have a steady flow of up-to-date information concerning their most detailed needs, by having their "user profiles" matched against subject-coded computer tapes. Again, this is but a first step to a future that will retain the book and the journal and traditional library functions, but will augment them with all the learning and retrieval sources that man can develop. The crux of the matter will be economic rather than technological, and the rising health expectations of our citizens may well break the economic barrier.

The library has also a traditional function which has not been overlooked. Every librarian knows it is his duty to conserve local materials in his field of endeavor, and the College of Medicine Library has made a concerted effort to collect health sciences publications originating in Arizona. Starting with a nucleus collection from a donor prominent in the field of public health, who has given unstintingly in many subject areas, the Library has collected all available Arizona health-sciences publications. In many cases the only available files, often incomplete, have been located in Washington, D. C., and a program is planned to acquire these in microform for the Library. Meanwhile, the history of the health professions in the State is still being written, and the Library is planning an "Oral History" program, to collect tape recordings of memoirs of persons who have been active in this field. Nor has the classical concept of medical history been ignored. The Library is fortunate in having a number of early imprints in medicine, largely through the generosity of interested individuals.

This, in brief, is the role of the library: to conserve the best of the past, to serve the present, and to plan wisely for the future. The accent in the College of Medicine Library will be on *active* support of education, graduate and continuing, and of research, present and future. The Library sees itself as a central learning resource for all of the health professions in all of their needs, as they work to improve the health care of all of us. This is a large vision, and bounds must be set in terms of availability of resources and urgency of need. But the vision remains, and there is nothing in the future that says it cannot some day be realized. We are all trying to bring that day closer.



MULTIDISCIPLINE LABORATORIES

JOHN D. PALMER, PH.D., M.D.
DIRECTOR

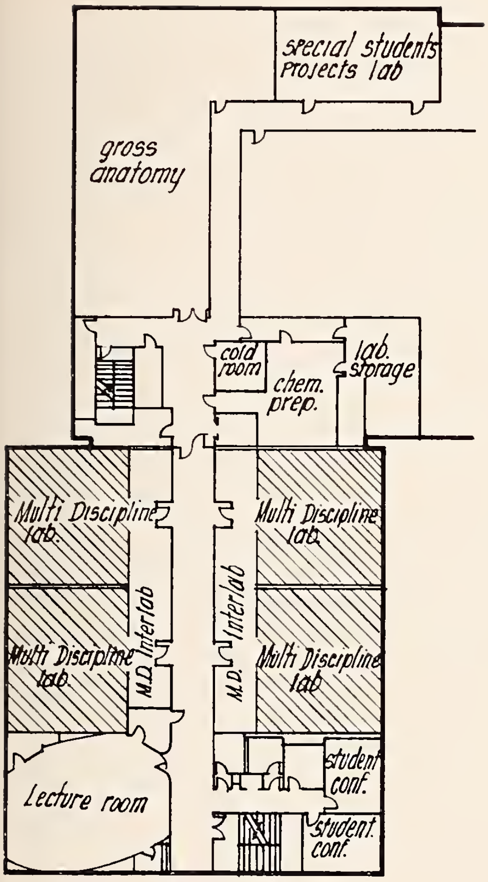
Introduction

The use of a single "unit" laboratory for the teaching of all of the basic medical sciences was first proposed by Leake in 1924. Various modifications of his original concept have been adopted by many medical schools as they have altered their curricula and methods of instruction in attempts to overcome the shortcomings of the traditional, or "lock step," curriculum. The Multidiscipline Laboratories at the University of Arizona College of Medicine will constitute a principal means for the realization of the educational objectives outlined elsewhere in this issue of **Arizona Medicine.** The multidiscipline laboratories will be used to provide the environment in which the medical students can learn the fundamentals and laboratory principles of each of the basic science disciplines. The laboratories will also provide a setting in which the students can gain an understanding of the scientific method and develop techniques of problem solving and self-education which will be of value throughout their professional careers.

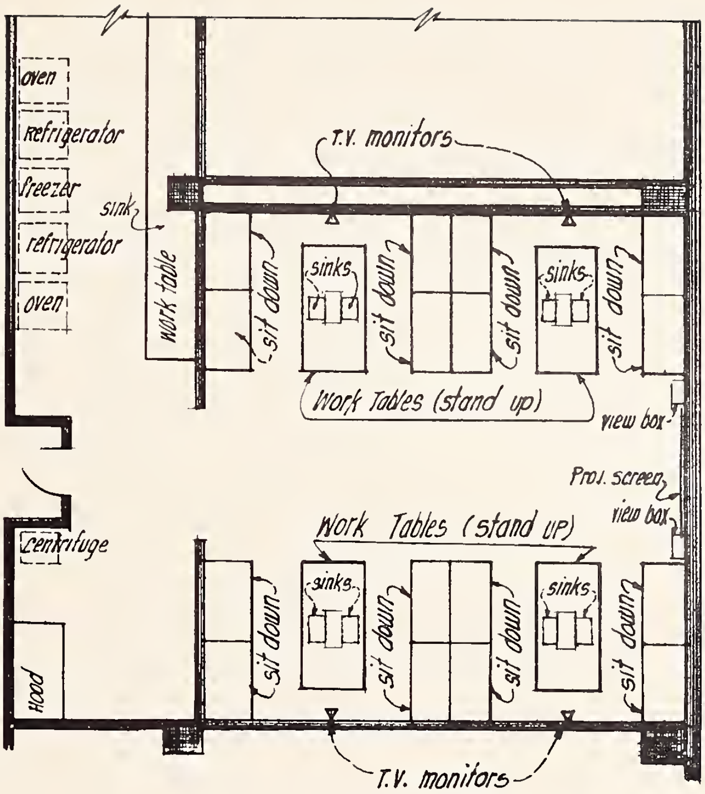
In the following, an attempt has been made to describe the design and operation of the Multidiscipline Laboratories. It is hoped that this description will point up the advantages this type of laboratory offers to the student, faculty, and administration of the College of Medicine.

The Facilities

The use of the multidiscipline teaching laboratories represents a departure from the traditionally separate departmental facilities. These laboratories will be used as a single teaching base by the six pre-clinical departments: Anatomy, Biochemistry, Physiology, Pathology, Microbiology and Pharmacology. The laboratories will also be used by the clinical faculties as they introduce the students in the first and second year classes to clinical medicine. The teaching laboratories occupy two floors in the student wing of the Basic Science Building. The ground floor of the student wing is composed of supporting facilities, including a snack bar, book store, lounge and locker rooms. The anatomy morgue and animal quarters are also on this level, but within the main body of the Basic Science Building. The Multidiscipline Laboratories are located on the second and third floors of the wing with the third floor being assigned



3rd FLOOR PARTIAL PLAN



TYPICAL MULTI DISCIPLINE LAB

to the first year class and the second floor to the second year class. The student wing of the building is distinctly separate from the main body of the Basic Science Building in order to provide the students with an area which they can identify as their own.

The accompanying illustrations show the layout of the multidiscipline laboratories on the third floor and a larger scale drawing depicts the design of a typical multidiscipline laboratory. The basic teaching laboratory is approximately 950 square feet and it will accommodate sixteen students. The two laboratories on the same side of the hall are connected by an interlab. The interlabs provide unassigned space for experiments and demonstrations. The interlabs also contain items of large or highly specialized equipment, such as ovens, refrigerators, deep freezes, high-speed refrigerated centrifuges, spectrophotometers, Warburg apparatus and analytical balances.

Each student in the two pre-clinical classes is assigned to an individual laboratory space on a yearly basis. The student has his own high and low bench facilities, which are available for his use at any time. The space in these laboratories is not used by any other group of students.

The stand-up work tables, which are in the form of an island, are provided with sinks and running water, and outlets for electricity, distilled water, rare gases, gas, air and vacuum. The sit-down facilities provide the student with a desk area. There is a tackboard above each desk and an individual fluorescent light. At each desk, space is provided for the storage of a microscope, books, and other equipment.

The laboratories are open to the students at all times and they may work individually, in pairs or in groups of four. Each laboratory is equipped with blackboards, a projecton screen and X-ray view boxes so that the laboratory can also function as a classroom for its sixteen students. The proximity of the experimental areas to the study areas and the simultaneous access to both is thought by many to increase student efficiency and increase the usefulness of each area.

The laboratory floors of the student wing embody a complete facility for the study of the basic medical sciences. In addition to the medical student laboratories, each floor has a 128-seat lecture room and rooms for conferences, calculating, and typing. Also included are rooms for storage, glassware preparation, chemical and biological preparation, and experimentation in the cold.

The two laboratory floors of the student wing are nearly identical in design. The third floor differs in that there is a Gross Anatomy Laboratory and a Special Students' Projects Laboratory adjacent to the Multidiscipline Laboratory area, but within the main body of the Basic Sciences Building. Gross anatomy is the only part of the curriculum which is undertaken outside of the multidiscipline laboratories. The Special Students' Projects Laboratory is a modified multidiscipline laboratory. It has six stand-up benches rather than four, and the sit-down areas are located along the walls. This special projects laboratory will serve many purposes. It is intended for use by the medical students of any class if they elect to explore a certain subject in depth. This may occur during the school year in periods of unprogrammed time, or during the summer sessions or elective terms. The laboratory will also be used for special courses in the graduate curriculum. We expect that many of our graduate students will pursue academic careers and it seems fitting that they should have their laboratory courses in a setting identical to that in which many of them will carry on their teaching endeavors.

The multidiscipline laboratories, lecture rooms, gross anatomy laboratory, and special projects laboratory will be interconnected by means of a closed circuit television system. The programming may originate in any of the laboratories or lecture rooms and be distributed to any combination of the laboratories or lecture rooms. The system will have the capacity to handle two separate programs simultaneously. The system will ultimately connect to the clinical facility so that the faculty can make use of clinical material when it is relevant to material under consideration in the multidiscipline laboratories. The television system is also equipped with a two-way talk-back system so that the students and faculty may communicate with one another during the course of the programming.

Each group of four students will have at its disposal an electronic oscillographic recorder for use in experiments in physiology and pharmacology. A group of students may use a recorder individually or they may connect it to a circuit which interconnects all of the teaching laboratories and lecture rooms. In this fashion, a single recorder may be either the "master" of the entire system or the "slave" of a master recorder located elsewhere. This system is to be operated in a fashion similar to the television system in that programming may originate in any of the laboratories or lecture rooms and be distributed to any combination of laboratories or lecture rooms throughout the student facility. This system is also capable of carrying two different programs simultaneously and it, too, can be connected to certain areas in the clinical facilities. We anticipate that events of clinical relevance will occur in the emergency rooms, the cardiac catheterization laboratory, the radiology suites, operating rooms, delivery rooms and intensive care wards. Tape recorders are planned for both the television system and the recorder system so that when events of relevance occur in the clinical facility out of phase with the basic science curriculum, they can be stored and replayed at the appropriate time.

Operation

The multidiscipline laboratories are operated as an autonomous department of the College of Medicine. The staff includes, in addition to the Director, two teaching technicians, a mortician, secretary, and part-time dish washer. We also have the services of a full-time histologic technician to prepare the slide sets for the Departments of Anatomy and Pathology.

The laboratory staff provides a maximum degree of preparation for the students. This relieves the faculty of the burden of such preparation and permits optimum use of the students' time in the laboratory. The departments submit a detailed protocol well in advance of the scheduled experiment. Then, on the appropriate day, the laboratory staff sets out the necessary equipment and supplies for the conduct of the assigned exercise. The staff is also available to the faculty to assist in the preparation of new laboratory experiments and in the pre-testing of these exercises when necessary.

The equipment used in the teaching laboratories is modern and of research quality. It is not our philosophy that students should learn modern medical biology with the tools of yesteryear. This equipment belongs to the teaching laboratories and is for the exclusive use of the medical students.

Comment

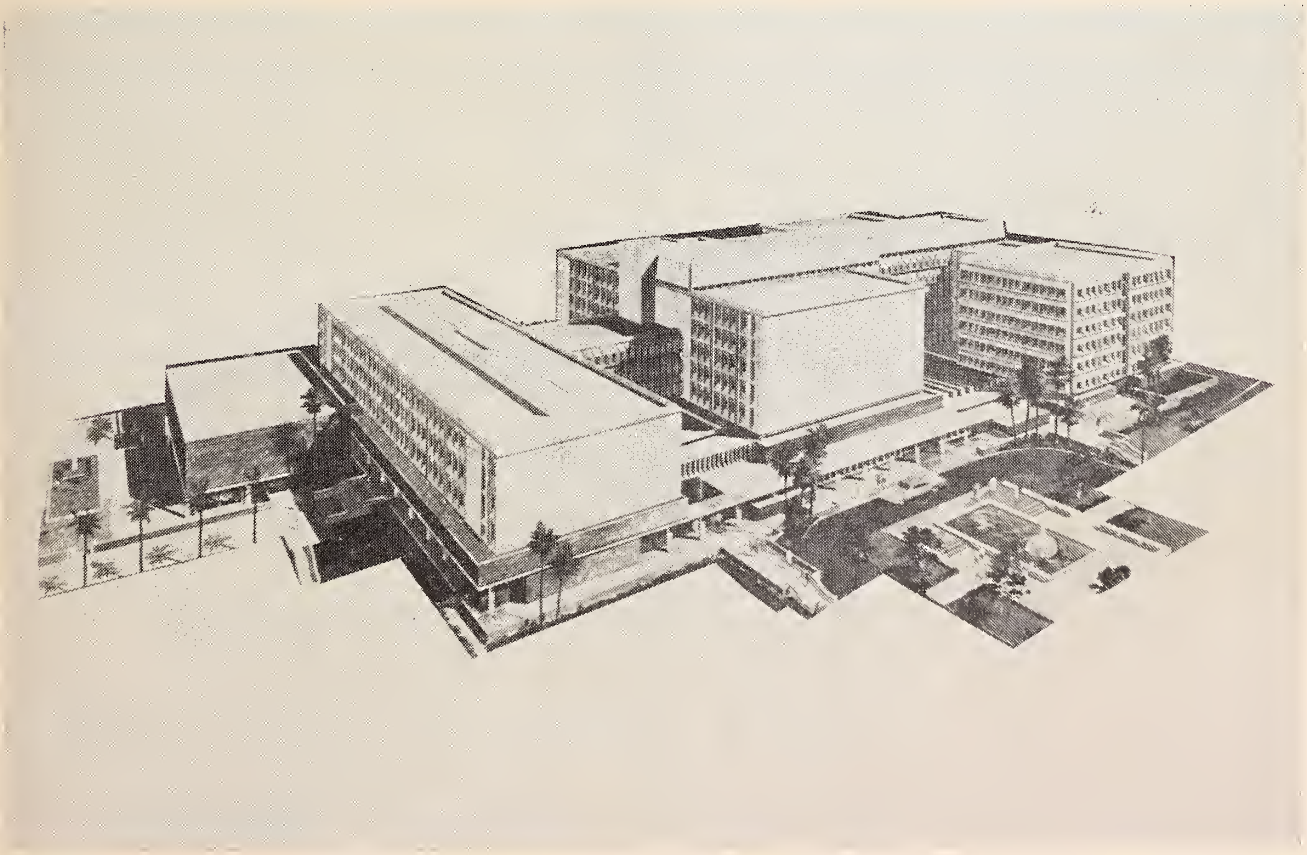
Experiments in other schools using multidiscipline teaching laboratories have shown that many benefits accrue to the users of the laboratories. Our laboratories are student oriented rather than subject oriented. In this setting, the students are to be the principal beneficiaries. They will have the advantage of occupying a distinctly separate portion of our building which they can call their own and which is available for their use at any time. Theirs is an environment in which the learning process can be made both interesting and stimulating. It is hoped that this setting will foster the development of techniques of problem solving and self-education which will facilitate transfer of new scientific knowledge to useful applications throughout their careers.

The students will also benefit from the many advantages the multidiscipline laboratories offer to the faculty. The benefits derived from efficient use of space, time, staff, equipment, and funds will favor increased teaching effectiveness. This centralized teaching facility allows a minimum investment to serve a maximum number of students and faculty.

The multidiscipline laboratories are infinitely flexible with respect to the type of teaching they can accommodate and they readily lend themselves to change. This is of great importance to a faculty which has undertaken an obligation to design and develop a curriculum which fulfills the educational objectives outlined elsewhere in this issue of ARIZONA MEDICINE. This will require imagination, invention, and innovation. There must be constant self-assessment and the initiation of change when it is appropriate. This can be a broad background for research in medical education and we hope that interested parties will seize upon the opportunity.

Summary

The multidiscipline laboratories are oriented toward the mission of modern medical education. In these laboratories, it is feasible and possible to bring together all the needed expertise and to achieve the desired objectives. The ultimate test of these laboratories lies in the future work of our graduates. We hope that one day we will be able to hang the words of Christopher Marlow over the entrance to the Multidiscipline Laboratories, "Infinite riches in a little room."



THE CLASS OF 1971

It is a pleasure to introduce the first class of the University of Arizona College of Medicine to the readers of ARIZONA MEDICINE.

The Class of 1971, which numbers thirty-two, is pictured on the accompanying pages. These young men and women were selected for the entering class from a group of nearly 600 applicants. Twenty-eight of the class are residents of Arizona; there are two from California, and one each from Utah and Nevada. Twenty-seven of the students received at least a portion of their higher education in the State of Arizona. Thirteen members of the entering Class of 1967 attended Arizona State University. An equal number attended the University of Arizona, and one attended Northern Arizona University. There is one student from each of the following Universities and Colleges: Occidental College, University of California, College of the Holy Cross, Stanford University, and Pasadena College. Seven of the twenty-six male students are married and of these, three have one or more children. All of the women in the class are single.

Stephen P. Bailey
Arizona State University
Tempe, Arizona

Thomas S. Bailey
Arizona State University
Phoenix, Arizona

Edra E. Blackburn
Arizona State University
Cottonwood, Arizona

James F. Blute
University of Arizona
Tucson, Arizona

Shirley Ann Clapp
Arizona State University
Phoenix, Arizona

George H. Darwin, Jr.
University of Arizona
Tucson, Arizona

Michael J. Freeman
Arizona State University
Tempe, Arizona

Stephen W. Hall
Arizona State University
Phoenix, Arizona

Ross Henderson
University of Arizona
Tucson, Arizona

Patrick G. Henry
Arizona State University
Scottsdale, Arizona

Thomas H. Hicks
Arizona State University
Scottsdale, Arizona

Marc H. Ingle
Pasadena College
Phoenix, Arizona

Sandra L. Kramer
University of Arizona
Tucson, Arizona

Frederick A. Kreuzer
Northern Arizona University
Las Vegas, Nevada

Marilyn Kay Laughead
University of Arizona
Prescott, Arizona

Timothy A. Lind
University of Arizona
Tucson, Arizona

Dwight C. Lundell
University of Arizona
Thatcher, Arizona

Richard A. Melde
Occidental College
Scottsdale, Arizona

Judy K. Munyon
Arizona State University
Phoenix, Arizona

Todd H. Overton
Southern Methodist University and
Arizona State University
Tempe, Arizona

Michael A. Platt
University of Arizona
Tucson, Arizona

William S. Reid, Jr.
Arizona State University
Phoenix, Arizona

Charles J. Rolle
University of Arizona
Flagstaff, Arizona

Donald J. Ross
University of California at Berkeley
Berkeley, California

Samuel W. Shoen
College of the Holy Cross
Phoenix, Arizona

Volker K. Sonntag
Arizona State University
Phoenix, Arizona

Roger A. Spencer
Stanford University
San Diego, California

Gary N. Taylor
University of Utah and the
University of Arizona
Salt Lake City, Utah

Terry H. Vondrak
University of Arizona
Tucson, Arizona

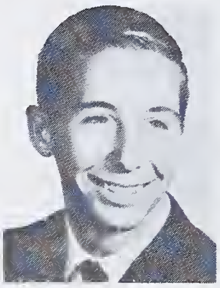
Sandra Walmsley
Arizona State University
Phoenix, Arizona

William S. Wanago
University of Arizona
Tucson, Arizona

John S. Weaver
University of Arizona
Tucson, Arizona

CLASS OF 1971

Stephen P. Bailey



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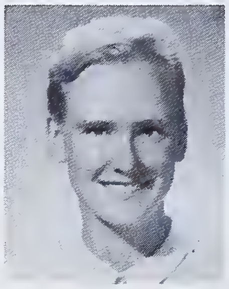
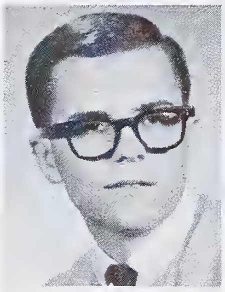


Edra E. Blackburn

James F. Blute

Shirley Ann Clapp



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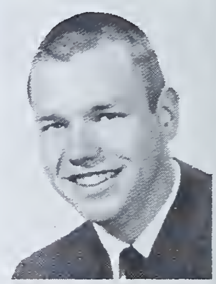
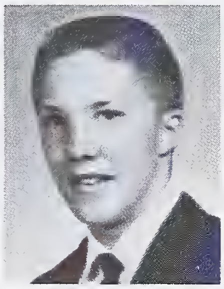


Michael John Freeman



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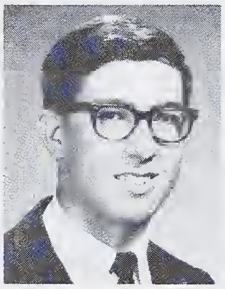

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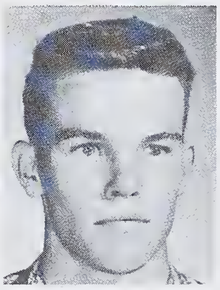
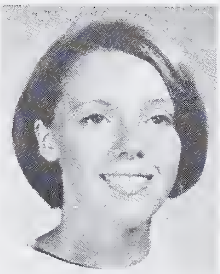


Patrick Henry

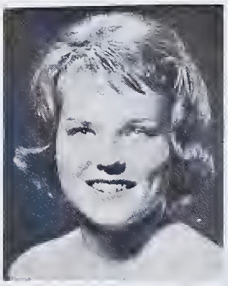
Thomas H. Hicks

Marc H. Ingle



Sandra Kramer

Frederick Kreuzer



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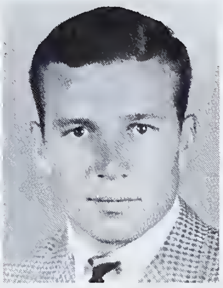
Timothy Lind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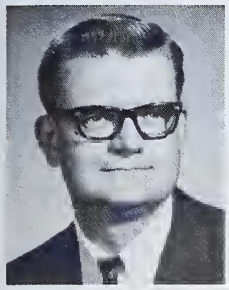
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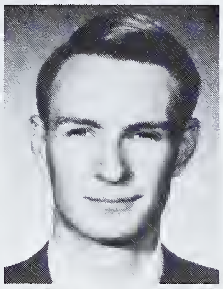
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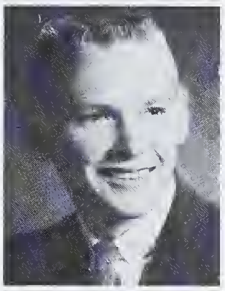
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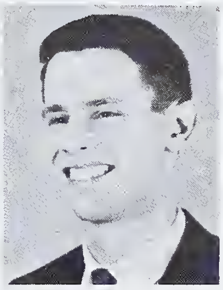
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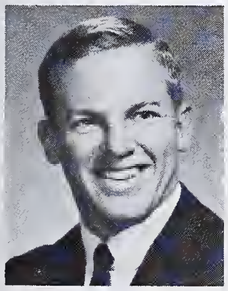
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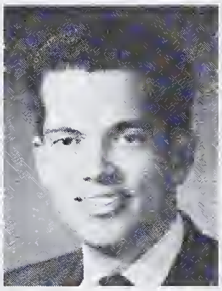
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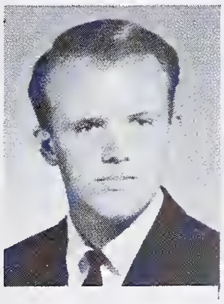
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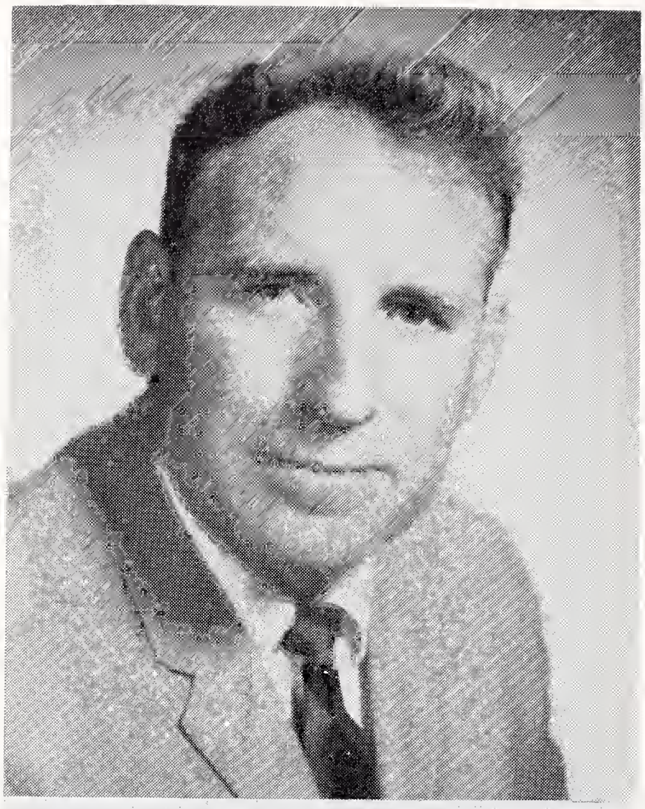
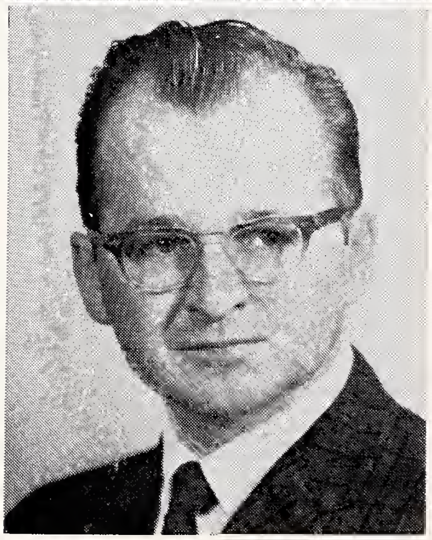


DEPARTMENT OF ANATOMY

PHILIP H. KRUTZSCH, PH.D.
PROFESSOR AND HEAD

JAY B. ANGEVINE, JR., PH.D.
ASSOCIATE PROFESSOR



G. ROY HORST, PH.D.
INSTRUCTOR

Anatomy has central responsibility for the presentation and study of morphological systems. Its contributions occur at the gross, microscopic, and ultrastructural levels and have exerted strong influence on many areas of biology and medicine over the years. This discipline has established fundamental facts and methods supporting modern concepts of animal biology. It is the desire and purpose of the Anatomy Department to express a meaningful picture of the discipline and its relationship to the synthesis of chemical, physical and biological facts in a challenging and responsible program basic for continued growth and application by the developing physician.

The scientific role and contributions of anatomy to medical and biological sciences have undergone dramatic change in recent years with an ever greater interdisciplinary approach to problem-solving. The pattern of anatomy at one time was concerned to a large extent with descriptive macro- and micromorphology; however, with new discoveries and utilization of analytical, optical, and chemical instrumentation, the descriptive nature of anatomy has altered, resulting in a new dimension in the discipline. These tools, developed by the physicists and chemists permitted a fresh approach to the analysis of the complexities of organization and structure within the cell, which started in the laboratories of the early biological morphologists. The more recent contributions of the anatomists, who began exploring by histochemical, chemical and electromechanical means the structure and function of the brain, reproductive and endocrine organs, provided a logical sequence to the micromorphologist, whose interest in subcellular particles and organelles (again from a structural and functional standpoint) requires the utilization of electron microscopy, ultracentrifugation, spectrophotometry, chromatography and radioautography to demonstrate the smaller structural units that today's anatomist considers. This discipline, with its broad utilization of techniques from many areas, continues to converge with sister sciences of biochemistry, microbiology, pathology and physiology toward the resolution of ever more discrete problems of structure. Thus the continuing influence of anatomy on the science of medicine is well demarked and will continue to play an important role in the medical school learning environment.

The Department of Anatomy occupies the eastern half of the fourth floor of the Basic Sciences Building, an area which includes offices and laboratories for faculty and staff and study cubicles for students. Other laboratories provide specialized facilities for a wide range of physical, chemical and ultrastructural analytical procedures and controlled environment studies.

The physical plan of the Department provides maximum freedom, flexibility and efficiency for the conduct of faculty and student research and central instrument rooms allow full contact and interaction between faculty and students. A conference room, shared by the Department of Anatomy and the adjoining Department of Physiology, is available on the fourth floor for seminars, discussions and special teaching exercises. All facilities, equipment and teaching material for the instruction of medical and graduate students, including a special laboratory for human dissection, are provided and maintained by the Multidiscipline Laboratories. The Department of Anatomy thus will use its fourth floor space to maximum advantage for furtherance of research programs, while having full access to well-equipped and professionally maintained teaching facilities of superior quality. Future growth demands will be accommodated by horizontal expansion of the Basic Sciences Building eastward.

All anatomical teaching material for medical and graduate student training are housed and cared for by the Director of Multidiscipline Laboratories. The Department of Anatomy is fortunate in having study collections of exceptional quality, although need for considerable additional material still exists. The demanding requirements of producing the varied and comprehensive teaching material have utilized much time.

In gross anatomy, the available material includes a developing supply of cadavers for dissection. In order to assure such specimens, help has been solicited from civic-minded individuals willing to donate their remains. The number of bequests of bodies to the College of Medicine for teaching and research purposes has been gratifying and there is hope that an adequate and continuing resource will be derived by this route. Reference and loan material in osteology is represented in sufficient amount to meet the needs of the class entering in 1967.

In histology, student loan sets containing tissues from every part of the body and prepared by a variety of suitable techniques are available. Human tissues are used in all instances. Continuous additions to and improvement of these excellent teaching sets are planned for the future. Also available are a number of reference sets of serial sections of fetal mammalian specimens at various stages of development. Demonstration slides to illustrate special features of histology at the light microscopic level and large electron micrographs to clarify cytological details at the level of fine structure are yet in preparation and will be added as rapidly as possible.

In neuroanatomy, comprehensive sets of myelin-stained sections of the human spinal cord and brain stem will be loaned, one to each medical student. Also, each student is loaned a bound book of twenty-two original, enlarged photographs of an exceptionally well-differentiated series of myelin-stained sections of another human brain stem. This brain stem, although nearly normal, illustrates selective degeneration of two descending brain tracts and thereby clarifies a number of features of brain stem organization. It is anticipated that each pair of students will receive a gross specimen of the human brain for dissection. A reference collection of whole brain serial sections, stained for myelin and mounted on large glass plates, is available in the three cardinal planes of section — coronal, sagittal, and horizontal. These sets comprise nearly 1,000 slides in all and represent every 10th section cut from the brain. These are to be studied on large transilluminated viewing boxes or projected for class review. Additional light and electron microscopic material is needed, however, for demonstration purposes in neuroanatomy. At the present time, slides illustrating various regions of the human central nervous system with special neurohistological techniques are presented in the histology loan sets. Eventually, separate and comprehensive neurohistological loan sets will be provided.

It is expected that students will use these extensive collections in depth to enrich their understanding of human structure and principles of anatomical organization.

The responsibilities of the Department of Anatomy lie in two broad areas: First, the organization of clinical and graduate training programs in anatomy that balance and complement the other basic and clinical disciplines and second, the development of research programs in anatomy that enable the Department to play a significant role on the national scene in widening knowledge of morphological aspects of human and animal biology. Although distinct, the two areas are closely interrelated; the success of departmental research efforts communicates a sense of excitement in discovery to medical and graduate students through their teachers. Such influences attract superior individuals to the clinical and graduate training programs and challenge them to their best efforts.

In its clinical training program, the Department believes that there is a definable body of essential knowledge of human anatomy at gross, microscopic, and fine structural levels that every physician should know. This body of knowledge consists of principles of anatomical organization at all three levels, rather than topographic detail, however important the latter may be to certain areas of medicine and surgery. Mastery of this information is crucial to the student's medical education because it provides a basic vocabulary and frame of reference for all other disciplines. Such information furnishes the content for the first-year experience offered by the Department in gross anatomy, cytology and histology, embryology, and neurosciences. Opportunities for advanced and detailed exposure to special areas of anatomy will be offered later in the student's career, when he or she has chosen an area of medicine in which intensive anatomical experience is required. At this time, the program pursued by each student will be highly individualized.

In the graduate training program, the Department is mindful of the fact that it is expected to prepare its students to become effective biological scientists. Major emphasis is placed upon the interdependence of morphological, physicochemical and other analytical approaches to the study and solution of biological problems. The function of training students to become effective medical school teachers for tomorrow will stress student familiarity with, and participation in, the system of multidisciplinary laboratory teaching. Thus, its graduate students will be prepared to accept major responsibilities in medical schools, either immediately upon completing requirements for their doctoral degrees, or following the classical post-doctoral learning period. The increased demand for physicians and the need for faculty in the many new medical schools throughout the nation make such training in the techniques of research and teaching urgent and obligatory.

In addition to its individualized programs for third and fourth year medical students who elect advanced courses in special areas of anatomy, the Department hopes eventually to serve the needs of residents, postdoctoral clinical fellows and others who desire additional or renewed experience in these areas. The Department plans to sponsor and organize learning opportunities in its discipline for such individuals.

At the present time the Department of Anatomy numbers three individuals; a Professor and Head of the Department, an Associate Professor, and an Instructor. These members bring research and teaching experience in gross and microscopic anatomy and in neurosciences to the Department. Continued growth of the Anatomy Faculty is expected to occur in the next several years.

Philip H. Krutzsch, Ph.D. Professor of Anatomy and Head of the Department.

Dr. Krutzsch obtained his science training from the Universities of California (Berkeley) and Kansas (Ph.D., 1953). He came to the College of Medicine in 1964 from the School of Medicine at the University of Pittsburgh, where he served as Associate Dean and Associate Professor of Anatomy. Since his arrival, Dr. Krutzsch has served as Planning Assistant to the Dean and has played a key role in the design of the Basic Sciences Building. In addition to his administrative experience in medical education, he has published an extensive series of papers on a broad range of histophysiological, endocrinological and epidemiological aspects of mammalian biology, with major emphasis upon Chiropteran reproductive physiology and hypothermia. Dr. Krutzsch is experienced in the teaching of all phases of gross, microscopic, and neuroanatomy. He is married and has two children.

Jay B. Angevine, Jr., Ph.D. Associate Professor of Anatomy.

Dr. Angevine obtained his science training from Williams College and Cornell University (Ph.D., 1956). He came to the College of Medicine this year from the Department of Anatomy at Harvard Medical School, where he was Assistant Professor of Anatomy. Dr. Angevine has published an atlas of the human cerebellum and numerous papers in human neuroanatomy and mammalian neurogenesis, with major emphasis upon the structure of the forebrain and its development as studied by autoradiographic means. He has extensive experience in the teaching of neuroanatomy and microscopic anatomy. He is married and has two children.

G. Roy Horst, Ph.D. Instructor in Anatomy.

Dr. Horst obtained his science training at Wagner College and Cornell University (Ph.D., 1967). Dr. Horst is interested in the mechanisms of water balance and utilizes the techniques of histochemistry, biochemistry, and electron microscopy in resolving these problems. He has considerable experience in the teaching of histology and embryology. He is married and has two children.

DONALD J. HANAHAN, PH.D.
PROFESSOR AND HEAD

DEPARTMENT OF BIOCHEMISTRY

Biochemistry represents the study of the chemistry of biological systems and as such exerts its influence on many facets of medicine today. Challenging problems concerning the chemical basis of heredity, the manner in which genes control protein synthesis and enzymatic reactions, the mode of action of hormones, the chemical changes occurring during development of the cell and the entire organism, the pathway of carbohydrate and fat metabolism, form an integral part of research activities of basic and clinical laboratories. Not only are these investigations directed towards unravelling the intricate processes operative in the normal organism but also towards elucidation of the various errors of metabolism, e.g. cancer, heart disease. It is the intent of the Biochemistry Department to present a coherent picture of this discipline by merging the two large areas of chemistry and biology into a provocative and sound program suitable for continuing application by the medical student.

The pattern of development in biochemistry has undergone significant changes over the years and it is well to describe briefly this point since it has relevance to the teaching program within the department. A few short years ago biochemistry was an integral part of physiology and from this association developed the title of physiological chemistry. At that time research and teaching in physiological chemistry were concerned to a large extent with the subject of animal nutrition. Thus, the effect of levels and specific types of vitamins, proteins, carbohydrates and fats in the diet on the overall developmental pattern of laboratory animals and of man formed an important and major direction of this field. However, as knowledge and the tools by which to study the complexity of the cells became more sophisticated, the pattern of this field changed and as a result a splinter group formed and became known as biochemistry. Today a large contingent of biochemists, teach and/or conduct research in academic institutions, government and private laboratories and are concerned with a myriad of problems involving a wide variety of life forms. The growth of this field has been nothing short of spectacular as can be attested by the dramatic change in numbers of research investigators and increase of publications in leading scientific journals and the emergence of many new "biochemical" journals. This discipline now permeates the entire spectrum of biology, from plants, microorganisms, sea and land animals to man. The influence of biochemistry on medicine is widespread and it is well established as an integral part of the medical school complex.

The explosive development of a discipline such as biochemistry was, as might be expected, catalyzed by certain key discoveries. The first definitive proof for the occurrence of an enzyme provided a tremendous impetus to this field and allowed it to assume a more rational approach. Today there are few programs in biochemical research that do not have some basic reference to this subject. Enzymatic assays have proven of considerable use in establishing certain abnormal processes, e.g. the level of transaminase activity in the plasma is an indicator of the amount of tissue damage in persons with myocardial infarcts. Another discovery of immense basic and clinical value was that of the isolation and identification of the hormone, insulin, which has such an important role in the management of carbohydrate metabolism in the diabetic (diabetes mellitus) patient and in the unaffected person as well. Finally, perhaps one of the more exciting developments in the field resulted indirectly from World War II effort on the production of nuclear weapons. The availability of facilities for production of radioactive isotopes useful in biological investigations became an overnight reality. Radioactive isotopes, such as carbon 14, essentially changed the entire complexion and direction of research in biochemistry and related fields. It allowed an investigator to trace in animals a metabolic reaction in which infinitesimally small amounts (microgram) of a compound, labeled with carbon 14 provided a ready indicator of normal and abnormal metabolic pathways. Its application to a wide variety of experimental studies both in the small animal and the human has provided important information on topics such as the biosynthesis of hemoglobin, cholesterol and fatty acid metabolism, the metabolic pathway of glucose etc. Concomitant with the production and availability of Carbon 14 other isotopes of prime importance to biological research were made available, thus iodine-131 for use in tracing thyroid behavior and in therapy, phosphorus-32 for application to nucleic metabolism studies, iron-55 for tracing red blood cell behavior and so on.

The above examples serve to illustrate certain factors influencing the direction of biochemistry development in the past. An important part of modern biochemical research activities has centered in the isolation of specific enzymes, for example, from a cell and to fully describe their physical chemical behavior. Although this avenue of exploration forms an integral part of biochemical research today, there is a growing trend towards attempts to fit these isolated components back into a reconstructed system mimicking intact cellular activity. Intimately associated with this trend is the development of a considerable interest in cell membrane structure and function, wherein a key to abnormal behavior may be found.

The discussion to this point has stressed heavily the concept of research in biochemistry, and not specifically teaching concepts. It is important to note, however, that any teaching program in this discipline is based almost exclusively on observations made by the research investigator. Thus, the teaching approach in biochemistry will be to assemble the various points of definitive information available on a particular topic and to present this material in a succinct and understandable manner to the student and hopefully promote further inquiry on the subject by the student.

The initial phase of development within the department of biochemistry can be regarded as constructed along traditional lines; in part this approach was dictated as the most efficient one in which to establish a department within the short time period available prior to the first class in September. On the other hand this approach is deceptive since it is our belief that the number of hours spent in didactic presentations is not necessarily equal to the knowledge gained. The student of today enters medical school better prepared than ever before and has a wealth of information and learning avenues available to him. The plan is to present the topics in biochemistry of greatest import and usefulness to the medical student and yet to probe sufficiently far into a particular subject to define the rationale utilized in arriving at a particular decision or result. The concept of problem solving and self study shall be stressed together with a free exchange of ideas between the faculty and student. Our goal is to provide an impetus to a student to establish or continue the habit of life long education. The intent of the Biochemistry Department is not to make a research investigator out of each medical student—far from it; yet there will be a built-in control since the subject matter of the course will not be "diluted or watered-down" but will provide a solid basis for any future interest patterns in this area. This type of approach will be reflected in the laboratory wherein exposure to the techniques and approaches used in establishing biochemical principles will be pursued. To this end the laboratory shall be designed as an open-end laboratory where direction and discussion of laboratory procedures is provided at the start of the period after which the student may then proceed according to his ability and speed in completion of experiments.

The association of medical students with biochemistry or biochemical concepts will not cease with the completion of the first year biochemistry course. In a continuation of their course in the Medical School they will come in contact with this discipline time and time again. In order to facilitate their continuing interest, opprtunities for students with evident talents and abilities in biochemistry will be available for participation in research projects in the summer and at available times during the course of the academic year. In many instances students may elect to interrupt their medical training to undertake a year of full time research under the direction of a particular staff member. This has been a common practice in many major medical schools and it is one which has proved most valuable to many medical students.

Concomitant with the development of medical school curriculum, a graduate degree program leading to the Ph.D. in biochemistry will be proposed during the first year. A limited number of talented undergraduates will be selected to undertake this training in the department. An important facet of the development of biochemistry on the campus will be to formulate a joint Ph.D. program with the biochemistry division in the Chemistry Department. In addition, the Biochemistry Department anticipates close ties with the other biologically oriented groups and departments. A joint seminar program with interested groups on campus will do much to strengthen relations so necessary in the pursuit of understanding biological processes. In addition to a high level graduate program within the department, postdoctoral training for Ph.D.'s and M.D.'s will be available. The presence of this latter group in the medical school and on the campus will do much to add the necessary academic components to the medical school with a blending of basic and clinical philosophies and interests. It should provide a ready forum for discussion of a variety of stimulating subjects.

The pioneering faculty in the Department of Biochemistry as it begins its operation in this new medical school will be Christopher K. Mathews, Associate Professor, Michael A. Wells, Assistant Professor and Donald J. Hanahan, Professor and Chairman. In addition to these three faculty members the addition of two or three persons during the year is planned. A wide spectrum of interests will be reflected in the department and emphasis shall be placed on young, talented persons who have deep interests in teaching and research. A brief biographical sketch of the faculty follows:

CHRISTOPHER K. MATHEWS, PH.D.
ASSOCIATE PROFESSOR

a) *Christopher K. Mathews,* Associate Professor — Dr. Mathews obtained his undergraduate training at Reed College in Portland Oregon where he graduated with a B.A in chemistry. Through a Woodrow Wilson fellowship and a United States Public Health Service pre-doctoral fellowship, he pursued graduate degree work at the University of Washington in the Department of Biochemistry in Seattle where he completed his Ph.D. thesis under the guidance of Professor Frank M. Huennekens. On the basis of scholarly achievements, Dr. Mathews was awarded the departmental Eli Lilly Fellowship during his graduate study. Subsequent to completion of requirements for his Ph.D., Dr. Mathews undertook postdoctoral study in the laboratory of Professor S. S. Cohen in the Department of Biochemistry at the University of Pennsylvania during which time he was recipient of United States Public Health Service Postdoctoral Fellowship. After two years at that institution Dr. Mathews joined the Department of Biology at Yale University where he held the rank of Assistant Professor of biology until he joined the faculty at the University of Arizona. Dr. Mathews interests include a wide spectrum of biological problems such as biochemistry of phage infected bacteria; nucleotide metabolism, folic acid coenzymes and one-carbon metabolism, mechanism of action of anti-metabolites, and enzymology.

MICHAEL A. WELLS, PH.D.
ASSISTANT PROFESSOR

b) Michael A. Wells, Assistant Professor — Dr. Wells obtained his undergraduate training at the University of Southern California in Los Angeles where he obtained a B.A. degree. His doctorate study was undertaken in the Department of Biochemistry at the University of Kentucky Medical School under the direction of Professor John C. Dittmer. During his graduate study he held a United States Public Health Service predoctoral fellowship. Upon completion of the Ph.D. requirements, Dr. Wells was awarded an American Cancer Society postdoctorate fellowship for study in the Department of Biochemistry, University of Washington Medical School in Seattle, in the laboratories of Professor D. J. Hanahan. His research interests include the biochemistry of the developing and adult brain, the chemistry of complex lipids, lipolytic enzymes and general enzymology.

c) Donald J. Hanahan, Professor — Dr. Hanahan completed his undergraduate and graduate training at the University of Illinois in the Department of Chemistry, Urbana, Illinois. Subsequently he spent one year and a half on the Manhattan project at the University of Chicago and at the Hanford Engineering works, Hanford, Washington. He then undertook postdoctoral training in the Department of Physiology, University of California, Berkeley, California, under the direction of the late Professor I. L. Chaikoff. Subsequent to this postdoctoral study Dr. Hanahan joined the faculty of the Department of Chemistry at the University of Washington in Seattle and after a short period of time became a member of the Biochemistry Department of the then developing medical school in Seattle, where he held the position of professor prior to coming to the University of Arizona Medical School. Dr. Hanahan's research interests cover the areas of chemistry of the simple and complex lipids, metabolism of lipids, blood coagulation, erythrocyte membrane structure and enzymology.

DEPARTMENT OF MEDICINE

OSCAR A. THORUP, JR., M.D.
PROFESSOR AND HEAD
DEPARTMENT OF MEDICINE

Medical Education and Community Health

The issue of the Journal of the American Medical Association, published the 21st of November, 1966, contained the Annual Report on Medical Education. One of the features of that report was the brief summaries of the reports of six recent studies of major significance to medical education. As the editors commented, "There has probably never been any single period in our history during which so many signficant reports have appeared." These reports have included: 1) The report of the A.M.A. Citizens Committee on Graduate Medical Education, 2) The A.M.A. Ad hoc Committee on Education for Family Practice, 3) The report to the Association of the American Medical Colleges by Dr. Lowell T. Coggeshall, 4) The Endicott House Summer Study on Medical Education, 5) The report of the National Commission on Community Health, and 6) The Fort Lauderdale Conference on Medical Services and Medical Education. It is abundantly clear from these studies that despite the high quality of medical care in these United States many people believe it can be improved.

The two studies sponsored by the A.M.A. Council on Medical Education focused most clearly on the problem of the delivery of health care to the family. They have broad implications for those of us interested in undergraduate and postgraduate medical education.

The Citizens Commission on Graduate Medical Education searched for a reason for the marked decline in the numbers of physicians entering the ranks of family practitioners. They concluded that general practice had lost prestige as the specialists had risen in honor and accomplishment. It was noted that the medical student and house officer rarely had any opportunity to see excellent examples of comprehensive continuing care by well-qualified and prestigious primary physicians. The educational opportunities which had been developed to interest students in family practice were considered to be few in number and of poor quality. Finally, they felt that the conditions of practice for the family practitioner were less attractive than the conditions and privileges enjoyed by the specialist.

The A.M.A. Ad hoc Committee on Education for Family Practice, after much deliberation, concluded that there was a need for a new type of physician prepared through new kinds of educational programs to provide comprehensive personal health care. The family physician whom they envisioned might limit his practice to one or several fields of medicine, but would assume the responsibility for seeing that the patient received the comprehensive continuing care that was required, and would coordinate this care for the benefit of the patient and his family.

The conclusions reached by these committees have given added impetus to the efforts of the American Academy of General Practice to upgrade the educational and training opportunities available to those interested in family practice. For several years the American Academy of General Practice has sought to elevate educational standards by prolonging the period of training for those wishing to qualify as family physicians, and more recently to establish a Certification Board for those attaining certain standards. With the implicit backing of the various reports noted above, these efforts will no doubt be successful in the near future.

The goal of these efforts is the production of a larger number of better trained physicians to care for our people. It seems reasonable that lengthening the period of training and establishing new and more stringent standards will result in physicians better trained for family practice. Similar measures have aided the development of highly skilled physicians in areas of special interest in the past. A great deal of time and effort has already gone into the studies leading to the publication of these reports and into the deliberations of the members of the Council on Medical Education. There is little doubt that pressure for continued improvement of standards will continue unabated.

The initial reaction of the College of Physicians was to support the goals, but to oppose the activities of the American Academy of General Practice which they did not feel would be successful in solving the problems in this field. The feeling is now growing that we must join our colleagues and search for ways to attain the goal of larger numbers of better trained physicians for the community.

Considerable displacement must frequently take place in order to alter training programs and departmental structure in an established medical center. To organize a new program in a developing medical center is less disruptive. The faculties of new medical schools have the opportunity and the responsibility to try to sense the direction of change and plan accordingly. Innovation and constant reappraisal of our efforts will be necessary if we are to succeed in developing programs of excellence for the medical student and house officer which will lead ultimately to better community health care. The University medical school may no longer be isolated from the community it serves. It must be involved with the people of the community and with them seek solutions to today's problems. Joint efforts and mutual understanding is essential if we are to succeed.

A model of family practice will be developed at the University of Arizona School of Medicine under the direction of a Department of Community Health. This department will be concerned with the broad aspects of community health care, as well as the care of the individual patient. Physicians in the Department of Community Medicine will function exactly as the family physician in practice. They will be primary physicians and will have responsibility for the patient at all times. The number of families allowed to participate in the program will be limited in order that the load will be a manageable one. The Department of Community Medicine will also be responsible for the administration of the emergency room. Members of the Department and the house officers will be able to admit patients to the University Hospital as they would to their community hospital, were that their site of practice. Consultations will be made available when requested by staff, house officers and students.

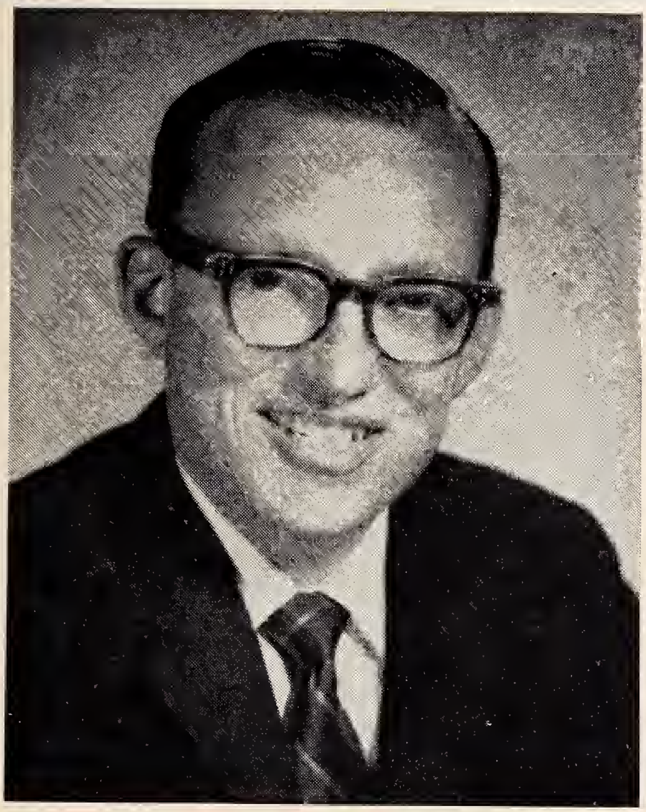
In such a setting, a number of opportunities for the study of the delivery of health care will develop and the medical students and house officers will have the opportunity to see family practice at first hand. The effect of this program on undergraduate and postgraduate teaching should be a salutary one. The relationship of the staff with patients and with each other, will be more like those of the community hospitals in which most physicians will ultimately practice.

Judging from the type of training selected by many of the young men in the field of internal medicine today, one may expect further growth in the development of subspecialty areas and a continued decrease in the number of "general internists." Attention has been called to these trends before. There are fewer general internists being produced today as the result of this increased interest in subspecialty areas. Increased training and competence of internists in narrow areas of interest will no doubt continue. The specialist in internal medicine will more often be a man with broad general interest to which is added great skill in a special field. He will function primarily as a consultant and deal with the complicated, obscure and difficult problems relating to the system or organ of interest to him. These specialists in hematology, cardiology, gastroenterology, or other areas of interest, will continue to require a broad background in internal medicine prior to the specialized training in areas of major interest.

The development of a separate department of community medicine responsible for the vitality of its own programs and unfettered by association with any of the classical, clinical departments will offer the optimum opportunity for success of the program. Preventive medicine seems to be a promising base from which to develop such a department. The staff members of such departments have long been concerned with epidemiology and other broad aspects of community health. They will now have the opportunity to study these problems, first hand.

The programs will provide the medical student with a realistic view of various types of practice and their interrelationships. It should allow him the opportunity of making a career decision based on observation of all types of practice rather than hospital-based specialty practice alone. There will be constant review of the program and changes will be made as needed. If the program is successful, it will provide one answer to the problem at hand; if it fails, it will be quite clear and we will search for another. The new schools have tremendous opportunities for innovation and must seek answers to the challenging problems presented by the people we are to serve.

DEPARTMENT OF MEDICINE
Division of Neurology



WILLIAM A. SIBLEY, M.D.
PROFESSOR AND HEAD

The old concept of a clinical neurologist as a physician skilled in diagnosis, but with few other resources, was modified with the emergence of a vital and dynamic neurological discipline in the post-war period. A number of factors were responsible for the renaissance of neurology in the United States during the past 25 years. The large number of neurological injuries in World War II emphasized the need for more fundamental investigations in the field. At the same time, the control of the more numerous bacterial diseases by antibiotics set into bolder relief the large number of neurological diseases which had, for so many years, been largely neglected. There was a rapid accumulation of new knowledge and new therapy followed. New medications for the treatment of epilepsy, a disease with a prevalence similar to that of diabetes mellitus, received most attention. New approaches to migraine, basal ganglia disorders, Meniere's disease, narcolepsy, polymyositis, myasthenia gravis, and several of the peripheral neuropathies followed. The importance of metabolic defects in the pathogenesis of many so-called "degenerative" diseases of the nervous system has been recognized, and this has led to effective treatment in a number of these conditions (e.g., Wilson's disease, phenylpyruvic oligophrenia). The acquisition of new knowledge and the development of new treatment continues at an accelerated rate. Neurology still deals with a vast number of diseases of unknown etiology but the progress which has been made is encouraging.

Accurate diagnosis, of course, continues to be a major contribution of the modern neurologist. The large number of diseases encompassed by the field, and the fact that a number of these are infrequent, accounts for the many years required to produce a really able neurologist.

The neurologist must often turn to various neuroradiological procedures such as arteriography, myelography and pneumoencephalography if the clinical history and routine laboratory studies do not provide enough evidence to make a definite diagnosis. Skill in the performance and interpretation of these procedures is acquired in the course of a good neurological residency training program. In most teaching hospitals, these procedures are no longer done in the operating room, but rather in a radiological suite which the neurologist shares with his colleague in neurological surgery. Such procedures are often an integral part of the neurological investigation; many more patients have need of these diagnostic procedures, than require surgery.

Neurology at the University of Arizona College of Medicine

Faculty The importance of neurological sciences in the Medical College curriculum has been recognized at the University of Arizona, as emphasized by the early appointment of a Director of the Division of Neurology and faculty members in the basic neurological sciences.

At the moment there is a shortage of trained neurologists in the southern Arizona area; for example, in May of 1967 there were no physicians in Pima County certified in Neurology by the American Board of Psychiatry and Neurology. Present plans call for the addition of two other clinical neurologists to the faculty during the coming year, one of these to be based primarily at the Tucson Veterans Administration Hospital. At the moment we are in communication with several outstanding individuals who have expressed an interest in joining the new Medical School.

We are fortunate in already having an excellent neurophysiologist, Dr. Douglas Stuart (Department of Physiology) and one of the country's outstanding neuroanatomists in Dr. Jay Angevine (Department of Anatomy). Thus we already have the nucleus of a strong neurological sciences unit at the University. As such, we hope to cooperate fully with other groups in the state that share our interest in the nervous system and its widely varied illnesses.

Neurology always has close practical bonds with Neurological Surgery, Psychiatry, Pediatrics, and Physical Medicine because there are broad areas where these fields overlap. Indeed, in all likelihood, physicians in these allied areas will spend time on the neurology service as part of their training. Every attempt will be made, also, to facilitate interdisciplinary communication via the mechanism of joint conferences and seminars.

Research All of the faculty appointees in the Division of Neurology will have research interests, although these need not necessarily be in laboratory research. Actually, some of the most relevant investigation that remains to be done in neurology is in the clinical area. However, an organized program of on-going investigation will be necessary if academic neurology is to have any meaning. Present plans call for continuing studies in demyelinating disease of the nervous system, viral diseases of the nervous system, and epilepsy. Other research areas will undoubtedly be explored by new appointees as they arrive on the scene.

In the field of the convulsive disorders the Division of Neurology will take an especially active interest; as will be noted subsequently, a Seizure Clinic will be started in the very near future which will be staffed by Division of Neurology personnel. In the field of the convulsive disorders in general, the empirical method remains the most productive, and continues to outstrip basic research in producing therapeutically useful information. Regardless of this fact, however, it is to be hoped that more fundamental knowledge of the cause of seizures will one day lead to more perfect treatment. However at the present time progress continues to be made using the trial and error method of identifying new anticonvulsants. During the past 2-3 years, for example, the development of diazepam and certain of its analogues, notably nitrazepam, has made major inroads in treating patients in the formerly resistant myoclonic-akinetic seizure category.

For many years Arizona has enjoyed a reputation as an area well suited to rehabilitation in a number of long-term illnesses, including chronic neurological disorders. One major clinic in the east, for example, for many years suggested that most patients with multiple sclerosis move to Arizona. While such moves have not been established as being beneficial, until more definite treatment is available, and perhaps even after that, climatotherapy will continue. Continuing efforts should be made to measure the effect of environmental changes in neurological diseases, especially in multiple sclerosis. In the latter ailment, most studies have indicated an approximate 4:1 north:south incidence ratio, but few attempts have been made to measure the effects of moving to a warmer climate in any significant number of patients. The Medical College, in concert with the medical profession of the state, should be in the forefront of this type of investigation, in addition to more basic studies of disease. Because of its already great importance to the health of the nation, by virtue of its unusual climate, it would be a natural and desirable development for the state also to acquire a reputation for initiating and nurturing medical research.

Community Service and Post-Graduate Training As soon as there is sufficient faculty representation, the efforts of the Division of Neurology will be extended in the direction of community service and graduate training. In a joint effort with the Pima County Health Department, a Seizure Clinic is planned, with the Director of the Division of Neurology serving as Director of the Clinic. If appropriate financial support for this undertaking can be acquired, the Clinic will be in operation by January 1, 1968. When the University Hospital's building is completed in late 1969, all tangible assets of the Seizure Clinic will be transferred to the Neurology Out-Patient Department of the University Hospitals. Thus the Seizure Clinic will be the nucleus of the Neurology Out-Patient Clinic, the latter coming into existence two years hence.

At the earliest possible time, also, present plans call for the initiation of a Neurology Residency Training Program at the Tucson Veterans Administration Hospital, where 25-40 beds will be set aside for the Neurology program. This service will later blend with a Neurology Residency Training Program at the University Hospital where 15 beds, in contiguity, for neurology are planned. The latter service will start in late 1969. Efforts to develop neurological facilities at the Tucson Veterans Administration Hospital will occupy considerable time during the balance of 1967.

Undergraduate Instruction in Neurology Plans for teaching neurology in the Medical School curriculum are only partially formulated at the present time. The first year curriculum includes approximately 90 hours during the first year for the contiguous teaching of neuroanatomy and neurophysiology, with appropriately selected clinical exposure during this period to facilitate and stimulate the teaching of these basic sciences of neurology. Drs. Angevine, Stuart, and Sibley will work closely to coordinate this teaching program, since this is a crucial period during which the student has his first introduction to the nervous system and its diseases. Throughout the curriculum, whatever final form it may take, we will always remember that we are, in a sense, custodians of a vast number of diseases of the nervous system, many still of unknown etiology. As such we have obligations, not only for diagnosis, but also for treatment, study and research in these disorders. In a medical school setting there is a paramount responsibility for relaying to the student that portion of a large amount of accumulated knowledge which is considered established and most pertinent. However, in a larger sense perhaps our main obligation to the student is to inflame him with an interest in this important area, where so much remains to be done.

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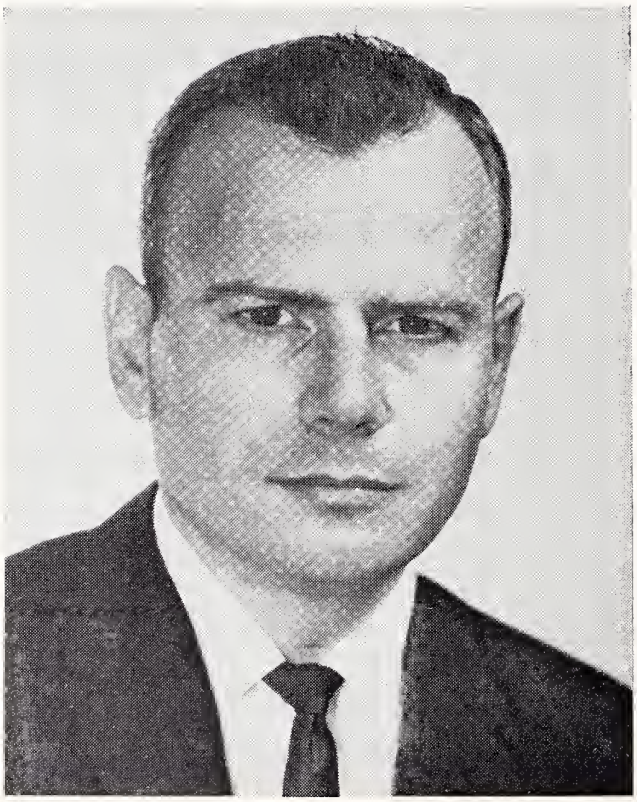
The University - V. A. Hospital Affiliated Program



WILLIAM F. DENNY, M.D.
ASSOCIATE PROFESSOR,
DEPARTMENT OF MEDICINE, AND
CHIEF, MEDICAL SERVICES,
V.A. HOSPITAL

Some 20 years ago, the Veterans Administration Hospital System began implementing a cooperative educational program with various medical schools throughout the United States. This program has gradually expanded throughout that period of time until now 89 of 126 Veterans Administration general hospitals are affiliated with medical schools. All of the new medical schools being organized throughout the United States have sought some form of V. A. affiliation, and many of these medical schools are encouraging new Veterans Hospitals to be built in close physical proximity to the university hospital. The magnitude of this affiliated program is illustrated by the fact that the largest bloc of full-time medical school faculty appointments under a single institutional organization now resides in the Veterans Administration. This program of affiliation has been of considerable mutual advantage to the medical schools and the Veterans Hospitals.

At a time when there is a greater and greater demand for increased medical school graduates, the availability of a variety of patients in the Veterans Hospitals which can be utilized for the training and the teaching of medical students allows larger medical school classes in addition to larger house staff training programs than would be possible with the facilities of the university hospital alone. The V. A. Hospital often draws from a larger geographic area than the university hospital, and this may allow a greater variety of patient material than when the predominant patient is from the city-county area of the university hospital. The typical patient at the Veterans Hospital presents a variety of multi-systems illnesses, ample quantities of geriatric patients, and the gamut of degenerative diseases. These patients can also be followed for long periods of time on an outpatient and inpatient basis, giving an opportunity to the student and the house staff physician to observe the progression of disease processes and the results of therapy. Because the number of house staff physicians and full-time staff physicians are usually smaller in the V. A. Hospital than the university hospital, the resident physician frequently finds himself with as great or greater responsibility for patient care at the V. A. than he has at the university hospital.

Other benefits to the medical school are centered around the expanding research program in the Veterans Hospitals. During the past 20 years, this research program, which involves both basic sciences and clinical investigation, has improved in quality and quantity and in many fields has been a pioneer in the country. Examples of this have been the leadership of the V. A. in development of radioisotopic research programs, cooperative therapeutic programs in tuberculosis and cancer, and many other large-scale cooperative study programs, as well as individual research projects of great variety. They are now implementing large programs for chronic renal dialysis, intensive care units, and emphysema rehabilitation programs which will enrich the medical program of the university-V. A. complex. The university also gains faculty by participating in recruiting and approving full-time physician appointments at the fully affiliated V. A. Hospital for inclusion into its teaching program. Thus, the primary benefits to the university are (1) clinical problems for teaching purposes, (2) increased faculty support, and (3) expanded research opportunities for the medical center.

The benefits to the Veterans Administration Hospital are likewise of major importance and center around improvement in the quality of professional services which can be obtained by the V. A. Hospital patient. The stimulation of academic appointment, research activities, and the opportunity to share in the teaching of medical students and house staff physicians have proved major factors in the ability of the affiliated V.A. Hospitals to attract able men. Close cooperation and consultation between the specialty services at the university and the service heads at the university allows enrichment of the professional activities at the Veterans Hospital. Combining subsection talents at both facilities allows for expanded patient investigation and research programs between the two facilities. The interest in the research and education program by the Central Office V. A. authorities has led to greatly increased financial support at the local V. A. Hospitals for these educational and research activities, which has proven of direct benefit to the V. A. Hospital and in turn to the university. Physicians at the fully affiliated V. A. Hospitals contribute much time to the ward teaching and outpatient departments at the university as part of their teaching responsibilities and these activities are clearly encouraged by the V. A. Hospital System.

The mechanism for supervision of the affiliated program is through a "Dean's Committee." Composed of representatives from the medical school as well as the V.A. Hospital, this committee assumes responsibility for the professional activities at the V. A. Hospital as well as organization and implementation of the student and house staff educational programs. This committee also provides support and supervision of the research activities of the V.A. Hospital. As the program is strengthened, there is a greater degree of integration unto the university program with considerable reliance on consultative services from the various clinical departments and basic science departments at the university. Eventually, many of the clinical services are fully integrated into the parallel department at the university with the students and house staff physicians rotating through both hospital systems. This program of academic affiliation has proved to be of great value to the Veterans Hospital in improved patient care and professional staffing, and it is expected that they will provide even greater support for the educational and research activities of the local hospitals in the future. Enabling legislation has been enacted by Congress, providing for greater joint use of government and university personnel and facilities as well as recognizing officially the educational role of the Veterans Administration Hospital System. Problems exist in arriving at a smooth affiliated program, but the benefits accruing to both the university and the V. A. Hospital are of sufficient degree to make each institution anxious to solve the problems as they arise.

DAVID RIFKIND, PH.D., M.D.
PROFESSOR AND HEAD

DEPARTMENT OF MICROBIOLOGY

The establishment of the new College of Medicine at the University of Arizona brings together into the community biologists from all parts of the country who have had a variety of professional and academic experiences. The College provide a unique forum for the interchange of ideas and services both among the new faculty members and students and with the established scientific community. This September College of Medicine issue of the J. Arizona Medical Association presents a welcome opportunity to outline the projected plans for the Department of Microbiology with a view towards initiating interest in our particular area of medical science.

As an introduction to the Department of Microbiology, this discussion will first review certain trends in the field of microbiology, particularly as related to medicine, and second, describe the projected teaching and research organization and activities of the Department as currently visualized.

Current Trends in Microbiology

Microbiology as a scientific discipline has been an active participant in the epic expansion of knowledge during the past decade which has resulted from the application of the molecular approach to the study of biological phenomena. This discipline has, on the one hand, contributed fundamental materials and techniques used in constructing the modern concepts of biology, and on the other, has derived information of enormous real and potential value for understanding the multifold activities of microorganisms and their interaction with host cells.

Bacterial infections refractory to current modes of therapy remain an important, if not increasing, problem in medical practice and result from both host and microbial factors. The former is seen in patients with depressed defense mechanisms due to congenital or acquired immunologic or neoplastic disease and in those who are receiving any of a variety of immunosuppressive therapeutic regimens. Also in cases such as bacterial endocarditis, the infection can be cured but the hemodynamic sequelae will lead ultimately to therapeutic failure. Similarly in Gram-negative sepsis, the fulminant cardiovascular failure resulting from endotoxin can be fatal before the antimicrobial drug therapy administered can take effect. The appropriate therapy for shock associated with Gram-negative bacterial infections and the mechanism of action of endotoxin represent the clinical and basic aspects of a single microbiological problem.

Microbial factors also contribute to the problem of refractory bacterial infections. Of particular interest recently is the identification of R-factors in enteric bacteria. These are nonchromosomal "genes" which are transmissible between different bacterial strains and even species and which confer multiple antibiotic drug resistance on the recipient strains.

It is in such areas as drug resistance that microbial genetics has defined the essential biological principles which are now permitting the elucidation of clinical problems. In addition, microbial genetics has been instrumental recently in revealing the code for protein synthesis, in elucidating metabolic pathways and is now supplying preliminary information on the mechanism by which biological molecules are assembled into viable units. Genetics is in fact a common theme in all phases of biological science and it is difficult to decide whether this discipline has grown with the new biology or whether its growth has led to the new biology. The understanding of the structure, function and replication of nucleic acids must certainly be counted as one of the important biological concepts of this century and this information provides a background from which medical science will inevitably make enormous strides. A new area of medicine will arise when it becomes possible to treat diseases of DNA and RNA.

While the pleuropneumonia organism, a bovine pathogen, and related pathogens for other animals have long been recognized, it is only recently that an organism of the same group, *Mycoplasma pneumoniae,* has been shown to cause disease in man in the form of cold-agglutinin-positive primary atypical pneumonia. In addition these unique forms of bacteria devoid of the usual rigid cell wall are known to be derived from essentially all of the usual bacterial species under the influence of a variety of inimical factors including penicillin. The resulting forms, variously termed PPLO, L-forms, protoplasts, and spheroplasts, are resistant to the antibiotics which inhibit cell wall synthesis. Thus it has been postulated that these forms arising spontaneously or under the influence of penicillin may resist treatment and lead to chronicity in such diseases as pyelonephritis, osteomyelitis and endocarditis.

The commonly pathogenic species of fungi are classified in the fungi imperfecti because no sexual phase of reproduction has been recognized in them. Recent studies suggest, however, that *Histoplasma capsulatum* may be the imperfect stage of the soil fungus *Gymnoascus.* This finding is parallel to the recognition of a number of years ago that two of the causes of mycetoma, *Allescheria boydii* and *Monosporium apiospermum,* were actually the perfect and imperfect stages of the same fungus. Such findings with other pathogens could yield important data on their epidemiology and on the relationship between cellular structure and the factors determining pathogenicity.

While the classical systemic fungi, such as Coccidioides, remain of importance as human pathogens, the opportunistic organisms, particularly Candida and Aspergillus, are assuming increasing importance in patients with depressed antimicrobial resistance. The currently available therapy for systemic fungal infections, amphotericin B, has a relatively low therapeutic index, especially for these opportunists. The prevention and therapy of these infections will pose an increasing problem as cytotoxic and immunosuppressive therapy becomes more widely applied and the need for additional antifungal agents and measures will become more urgent.

Parasitology relates to medical microbiology through its importance in infectious diseases. Our involvement with these diseases will probably increase as the concept of world medicine becomes established and as contact with other countries becomes more routine. The development of chloroquine-resistance among strains of plasmodia causing falciparum malaria in Southeast Asia is a case in point.

Virology is currently one of the most active and productive areas of microbiology. One aspect is the current interest in oncogenic viruses. A number of animal models are now available in which solid tumors and hematologic malignancies are produced by viruses. In certain cases, such as fowl leukosis and sarcomas, virus is produced by the neoplastic cells while in others such as SV_{40} tumors in hamsters virus is not demonstrable after malignant conversion. In these cases however, new antigens appear in transformed cells. This latter fact suggests the possibility of an immunologic approach to the prevention and therapy of such lesions as well as to the identification of their etiologies. Additional studies have revealed examples of infection with the combination of two different types of virus particles, neither of which alone can replicate in the cell. Such interaction can result in the case of adenovirus and SV_{40} in the exchange of both serologic and oncogenic properties. These complex interrelationships may help explain the difficulties in identification of viruses producing neoplasia in man. Recently however, human adenovirus have been shown to be oncogenic in hamsters. In addition epidemiologic evidence has suggested a transmissible agent in Burkett's lymphoma and in a few isolated cases of leukemia. It should be emphasized that to date, no malignancy in man has been proven to be of viral etiology. However, the numerous examples of such relationships in animals suggest this possibility and it is unnecessary to point out the importance of such a finding in man.

The role of viruses as teratogenic agents has long been considered; however, it is only in the past few years that the extent and variety of disease which can be produced by a single agent, rubella, has been appreciated. The role of infectious agents in birth defects of all types needs further investigation both because of the medical and social importance of this problem and because of its potential for prevention by available techniques.

A new group of agents, termed the "slow viruses" have been shown to be responsible for neurologic diseases in animals which have many of the features of chronic degenerative disease. Examples are scrapie in sheep and Aleutian disease of mink. Recently a transmissible agent has been implicated in Kuru, a similar disease in man characterized by signs of cerebellar degeneration. If other diseases, such as amyotropic lateral sclerosis and multiple sclerosis could be shown to be due to such agents, a new dimension would be added to the field of neurology.

It seems almost certain that we are embarking upon an era of viral chemotherapy. Already agents such as the thiosemicarbazones and adamantanamine are being used respectively for the prevention of smallpox and influenza. The therapy of herpetic keratitis with iododeoxuridine (IDU) is established in medical practice and case reports are suggesting the efficacy of similar halogenated pyrimidines in the treatment of herpes simplex encephalitis and cytomegalovirus pneumonia. A "virus infection" need no longer be a diagnosis by exclusion nor one without therapeutic implications.

Studies are now actively underway on the characterization of interferon, a small protein produced by cells under the influence of virus infection. This substance apparently prevents the reading of virus messenger RNA while permitting host cell biosynthesis to proceed. The protection provided by this substance is specific for the animal species of cell from which it is derived rather than for the virus which induces it. Thus interferon potentially is a broad spectrum antiviral agent. But possibly of even greater importance is its application as a tool for exploring the regulatory mechanisms of the host cell; that is, those factors which provide for the orderly and sequential operation of appropriate biosynthetic and metabolic pathways.

The scope of immunology has increased following the recent introduction of the concept of immunologic tolerance. The discovery that tolerance, rather than immunity can result from early contact with the antigen and that this state can be induced by means of immunosuppressive drugs has permitted the development of the field of organ transplantation. In addition, animal studies using neonatal thymectomy have shown the key role of this organ in establishing immunologic competence. In related studies in which the bursa in chickens and the thymus can be destroyed selectively, and in children with the Bruton and Swiss types of agammaglobulinemia, the immunoglobulin and cellular hypersensitivity phases of host defense mechanisms have been clearly differentiated. The recognition of the role of delayed hypersensitivity mechanisms in organ transplant rejection has suggested a mechanism which might potentially be manipulated to control neoplastic processes. Other lines of investigation which have dealt with the structure of the various antibody molecules are providing information both on the molecular nature of immune specificity and on the direction and chronology of evolutionary pathways.

The role that microbiology may play in the newer areas of human endeavor, such as extraterrestrial exploration is at present only a matter of speculation. However, investigations along such lines may well be necessary earlier than we currently anticipate.

Departmental Program

The emphasis in this Department will be on the basic principles of microbiology and their application to medical practice. It is apparent that without the prompt and imaginative application of basic advances to clinical problems that our mission as medical workers will be unfulfilled. Conversely if due attention is not devoted to basic research, our fund of new information will be exhausted leaving empiricism as the only mode of problem-solving.

The functions of the Department will be first the teaching of microbiology to the medical students. In this course, the basic medical microbiology and infectious diseases necessary for the effective practice of medicine will be presented from the point of view of general principles of biology and the mechanisms involved. Emphasis will be placed not only upon the current status of the field, but also upon the important areas in which additional information is needed. It is in this way that the student may learn a critical approach to scientific data and the methods by which new knowledge is acquired. These facilities will permit the student to continue learning throughout his professional career, an essential attribute in the rapidly advancing field of medical science.

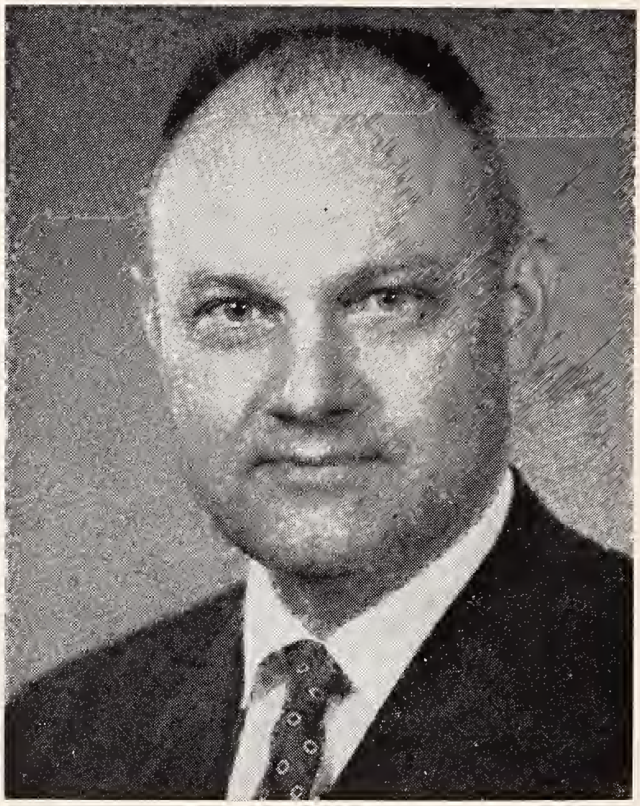
The staff members will also carry out active research programs in their areas of special interest. This will provide the necessary productivity to advance our fund of scientific information, to establish a creative environment for the development of an active graduate student and postdoctoral fellow training program and to advance the members own professional careers, and thus the stature of the College.

Further, the Department will actively participate in clinical research and consultation on infectious disease problems in the University Hospital. The staff of the Department will include a proportion of physicians with subspecialty training in clinical infectious diseases. This function will provide both optimal laboratory and basic science facilities for the management of infectious disease as well as give direction and relevance to those research activities in the Department with potential for clinical application. It is anticipated that a fellowship training program will be established in cooperation with the Department of Medicine which will emphasize the investigation of infectious disease problems in depth and the application of newer biological findings to these problems.

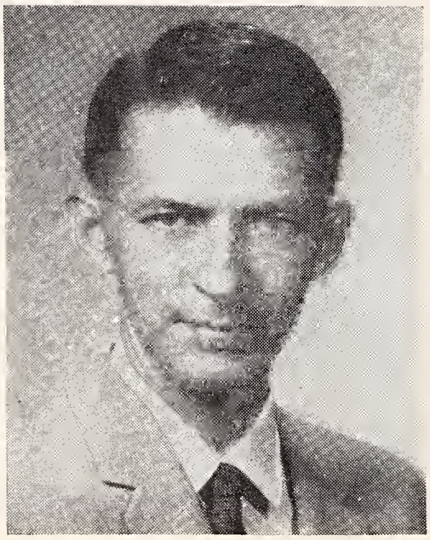
It is also anticipated that the Department will provide relevant post-graduate programs and conferences for interested physicians and microbiologists. It will be desirable to attract national conferences and programs to this Center in order to broaden our medical experience and interests. Finally the Department will maintain an active interest in infectious disease problems in our community and will attempt to provide appropriate consultation regarding their diagnosis and management.

Despite the many advances in areas of antimicrobial drug therapy, vaccine prophylaxis and public health preventive measures, the problem of infectious diseases has not been eradicated. Rather, the trend in microbiology today clearly is the recognition that additional classes of diseases previously thought to be hereditary, immunologic or neoplastic may, in fact, be of infectious origin. This continuing extension of the boundries of infectious diseases is one of the factors that keeps microbiology at the forefront of the rapidly expanding field of medical science.

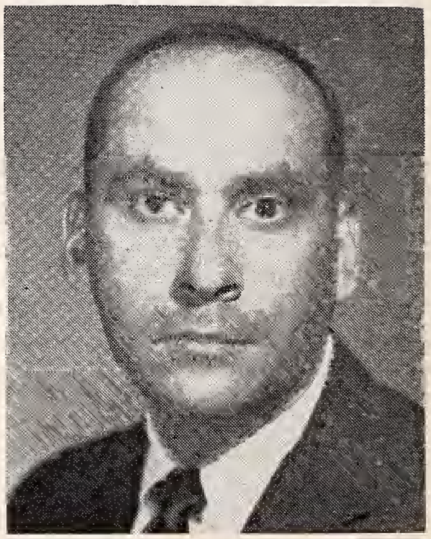
DEPARTMENT OF PATHOLOGY



JACK M. LAYTON, M.D.
PROFESSOR AND HEAD



JOHN R. DAVIS, M.D.
ASSOCIATE PROFESSOR



LEONARD R. MILLER, M.D.
ASSISTANT PROFESSOR

The Department of Pathology in the University of Arizona College of Medicine is a consolidated department with responsibility for both anatomical and clinical pathology. Pathology concerns itself with the changes which occur in disease — their cause, mechanism, and secondary alterations produced in body structure and function. Pathology becomes a clinical science when this knowledge of the nature of changes in disease is applied to patient care by pathologists and other practicing physicians. The stated objective of the study of pathology is to gain increased understanding of disease through whatever means will provide the physician with a solid body of facts from which he can reason and predict about disease.

In the last several decades there has been tremendous growth in knowledge and understanding of biological systems resulting in signal improvement in our ability to deal with disease. Molecular biology, suddenly exploding on cellular biology, has brought far reaching challenges and hopes for the solution of questions of normal and diseased life processes thought to be experimentally inaccessible a decade ago. No longer, it is clear, can one operate successfully on the assumption that the cell is the basic structural and fundamental biological unit. Biology has advanced from the cell to its component molecules. A major aim of pathology is to explain at the level of the cell and the molecule the mechanism of interaction between intrinsic and extrinsic factors resulting in the abnormality of cellular and molecular function in disease. Pathology, however, cannot claim an exclusive domain in trying to understand basic mechanisms in disease, but its orientation will be to study disease in order to develop a comprehensive understanding of the total biology of the abnormal state. Many individuals working in other disciplines are engaged in looking for various aspects of disease as part of their particular field of knowledge, and are adding to our knowledge of pathology. It is gratifying that the concept of pathology has undergone continued development, and the discipline should continue to be the bridge between the basic science and clinical science areas in medicine.

There is a growing awareness that the data collecting days of medicine, as exemplified by meticulous compilations of case histories, are being subjected to the law of diminishing returns. The sophisticated physician recognizes this fact; the frustrated physician, whose scientific insight dates from a bygone era, overcompensates with a shot gun barrage of laboratory procedures. The original idea, ostensibly, was to plug the gaps in clinical methodology by judicious application of laboratory tests, but many of them turned out to be ill-conceived and poorly executed. This aspect of our clinical concession to "science" has backfired and all medicine has suffered the consequences. Many laboratories have come to offer a bewildering array of worthless procedures replete with tables of "normal" values.

The recent advances in biology and medicine will undoubtedly conjure up again visions of diagnosis and treatment of patients by a battery of test tubes and machines. Nothing could be further from the truth. Such criticism ignores the fact that the new biomedical science dispenses with many of the elaborate (and faulty) procedures of the past. The beauty of the new biological method is its technical simplicity, not its complexity. And clinical pathology will exploit the opportunity to serve as the instrumentality through which the new medical biology, illuminated by mathematics, engineering, physics and chemistry, is translated into patient care.

A balance of activities in teaching, research, and service are essential in a university department of pathology, and they are interdependent and competitive, each being important. Teaching becomes the prime function of the scholars in an academic department of pathology. The teaching objectives can be achieved through outlets which occur at three levels: undergraduate medical curriculum, graduate education in depth, and continuing education for career personnel in the health sciences.

The teaching of pathology to undergraduate medical students will be given special attention. The medical students need to view pathology as a basic science applicable to the practice of medicine. To accomplish this, the teacher must have a broad understanding of the nature of human disease, with emphasis on the relation to clinical manifestations. Although the students need basic information relating to the changes which occur in disease, they need even more greater depth of understanding and greater ability to apply that understanding to new situations as they arise. There will be a sensitive concern for individual student differences. Concern for individual differences is the most important principle of learning as yet unaccepted in the working practice of classroom and subject matter teaching in most institutions. The technology is now becoming available to exploit these individual difference requirements, and the quest for ways to individualize instruction is emerging as the most important single force for innovation and reform. Owing to the architectural design of the Basic Sciences Building with the multidiscipline laboratories and medical library adjacent to the student-teaching area, it will be possible for us to exploit the promising new opportunities for better education that the new technology promises.

Residency training in anatomical and clinical pathology will provide for well-prepared pathologists with special qualifications in the various subspecialties of anatomical and clinical pathology. The same concern for individual differences noted in the undergraduate teaching program will be observed in the residency training program.

The teaching at the continuing education level acknowledges that rapid growth of knowledge and introduction of new techniques makes skills obsolete and comprehension inadequate long before the active professional life of the practitioner is finished. The programs will be designed to provide an interpretation of the new findings developed by research in the basic sciences to the application in the practice of medicine by the physician.

The service role of the pathology department is not merely, or mainly, that of providing service to patients in the University Hospital, nor is it entirely a matter of increasing the scope of research in this very important field. The trends toward greater specialization, greater reliance on a team approach to health care, and growing institutionalization of health care have all arisen quite spontaneously and their development has been largely without planning or structure. A great need of the future is for the rational development of improved organization and methods for health care and the delivery of health care. University departments of pathology should be taking the lead in studying the ways medical care is delivered to patients. The Pathology Department will devote attention to study how clinical pathology services can best be provided, medical students and young physicians will be taught to provide these services in the ways that are most effective medically and efficient economically, and "models" or "demonstrations" will be provided of how these services can be delivered best.

The teacher of pathology needs to have research experience. The program will be directed to subserve the educational responsibilities of the department, but this does not exclude the possibility that some members of the staff may devote a major portion of their time to research. Prevailing trends imply clearly that a dynamic relationship will need to be maintained permanently between research and instruction. Concomitantly, interdisciplinary approaches to research and instruction will need to be developed and maintained. Progress in medical science can only be made by viewing research and instruction as inextricably intertwined. Research has become an instrument not only for obtaining new knowledge but also for teaching and learning.

The Pathology Department curriculum will recognize the major forces which are shaping medical education today: specialism, changes in the art and science of teaching and learning, research, and social forces. We will focus on the opportunities which exist to provide increased numbers of physicians and other health personnel, to take advantage of the information explosion, to promote research, to recognize and adapt to changes in segments of the educational establishment other than medicine, and to provide ideas to rectify the breakdown in the system of health care delivery.

The eastern half of the fifth floor of the Basic Sciences Building houses the offices and laboratories for the Pathology Department, while the clinical laboratories, autopsy suite, and morgue will be located in the Clinical Sciences Building during the next phase of construction. In the Basic Sciences Building, each staff physician will have his own office and laboratory for investigative activities. Special carrels are provided for residents and postdoctoral fellows. The common supporting facilities will permit us to take advantage of methodologies such as electron microscopy, histochemistry, autoradiography, radioisotope technology, histology, and optical microscopy including fluorescence, phase, and polarizing types. A special room houses large and expensive instruments used for other biophysical and biochemical measurements, and centrifuges with various capacilities. The photography laboratory includes facilities for processing both black and white and color film. Other common supporting facilities include a cold room, freezer room, and glassware washing facility.

The initial faculty of the Department of Pathology consists of Jack M. Layton, M.D., Professor and Head, John R. Davis, M.D., Associate Professor, and Leonard R. Miller, M.D., Assistant Professor.

Jack M. Layton was born in Ossian, Iowa in 1917 and received his A.B., magna cum laude, from Luther College. He received his M.D. degree and his training in pathology at the University of Iowa and, except for a two-year tour as a medical officer in the U. S. Navy in World War II, he has served on the teaching faculty at the University of Iowa Medical Center continually until coming to Arizona.

Doctor Layton is a Diplomate of the National Board of Medical Examiners and of the American Board of Pathology, a member of the honorary medical fraternity Alpha Omega Alpha, and a past president of The Society of the Sigma Xi at the University of Iowa. He is the recipient of the Distinguished Service Award of the Iowa Chapter Arthritis and Rheumatism Foundation and the Distinguished Service Award of the Iowa Association of Pathologists as well as the Outstanding Teacher Award from the Sophomore Medical Class at the University of Iowa. He is an active member of numerous state and national professional societies and has been president of the Iowa Association of Pathologists. He is a member of the Board of Directors of the American Society of Clinical Pathologists.

Doctor Layton served as a member of House of Delegates of the Iowa Medical Society for many years and was chairman of its committee on blood banking, and subcommittee on medical practice in hospitals and nursing homes. He was also a member of the Board of Directors and of the Executive Committee of Iowa Medical Service (Blue Shield). Doctor Layton's research has involved the pathology of infectious diseases, particularly viruses and fungi, electron microscopic fine structure changes in disease, and the biological activitiy of teratomas. Doctor Layton was married in 1943 and has two children.

John R. Davis was born in Mattoon, Illinois, in 1929 and received his B.A. degree from the University of Iowa. Following a three-year tour in the United States Air Force he entered medical school and received his M.D. degree and subsequent training in pathology at the University of Iowa where he has been an assistant professor of pathology the past three years.

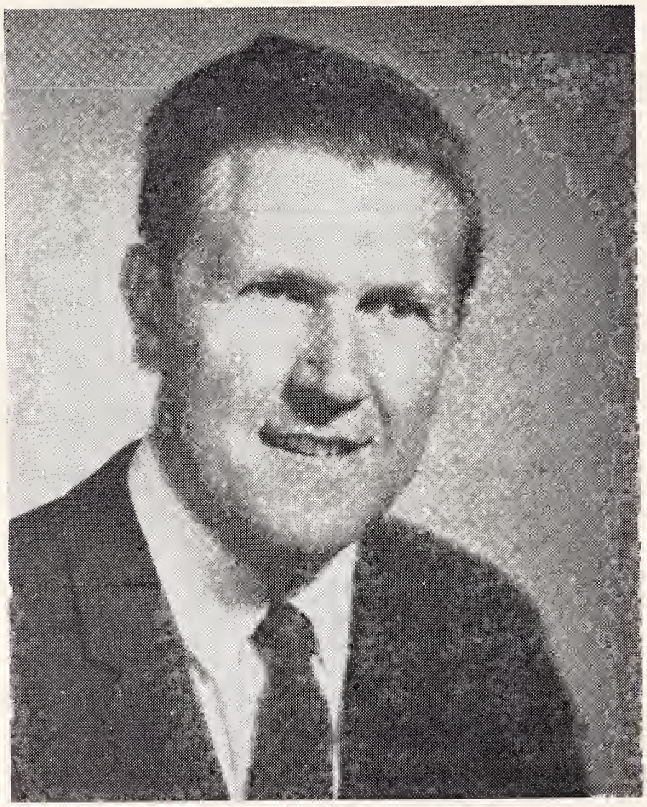
Doctor Davis is a Diplomate of the American Board of Pathology and a member of Alpha Omega Alpha. He is the recipient of the Roche Award, Fisher and Sherman scholarships, and the Gorman Award for Medical Research. He has been nominated for the outstanding teacher award by the sophomore class. He is an active member of numerous state and national professional societies. Doctor Davis' research interests have been in the fields of pathology of infectious diseases, especially Schistosomiasis and Toxoplasmosis, immunopathology, and gynecological pathology. He has recently made original contributions relating to the use of computers in pathology. Doctor Davis was married in 1952 and has three children.

Leonard R. Miller was born in New York City in 1933, and received his B.S. degree from Bethany College. He was awarded the M.S. degree in cell biology from the University of Pittsburgh in 1955, and the M.D. degree from Albany Medical College in 1959. He received his training in pathology at Yale University School of Medicine where he was an instructor in pathology before a tour of active duty as a medical officer in the U. S. Navy. During the past two and one-half years, Doctor Miller has been director of the histopathology program at the Armed Forces Radiobiology Research Institute, Defense Atomic Support Agency.

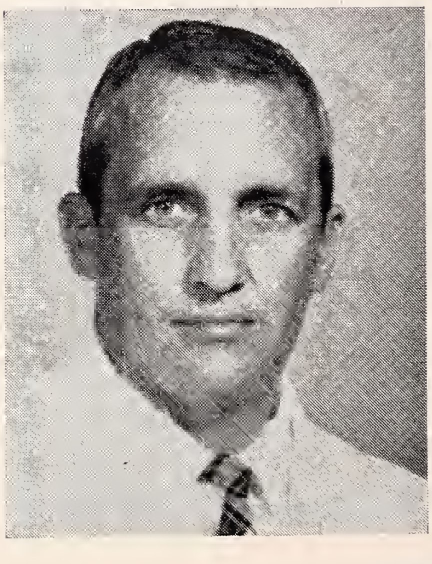
Doctor Miller is a Diplomate of the American Board of Pathology. He is the recipient of postdoctoral research fellowships and special fellowships in pathology, and a consultant to the tissue bank at the Naval Medical Research Institute.

Doctor Miller's research involves studies in cell biology using creatively the methods of tissue culture and electron microscopy. He has done original research delving into the cellular and subcellular effects of radiation and hereditary metabolic disorders. Doctor Miller was married in 1957 and has three children.

DEPARTMENT OF PHYSIOLOGY



PAUL C. JOHNSON, PH.D.
PROFESSOR AND HEAD



DOUGLAS G. STUART, PH.D.
ASSOCIATE PROFESSOR

Staff of the Department

Dr. Paul C. Johnson, Professor and Head

Dr. Johnson comes to the University of Arizona from Indiana University School of Medicine, at Indianapolis, where he was Associate Professor of Physiology. Dr. Johnson was born and raised in Michigan and received his undergraduate and graduate training at the University of Michigan. He received the Bachelor of Science degree in Physics in 1951 and his Ph.D. degree in Physiology in 1955. He was on the faculty at the University of Michigan and Western Reserve University before going to Indiana. Dr. Johnson's research interests are in the area of the circulation, particularly the microcirculation. He is the author of 37 research publications in respiration and circulation and is a contributor to a text book of Medical Physiology. Dr. Johnson is currently President of the Microcirculatory Society and a member of the Editorial Board of the American Journal of Physiology and the Journal of Applied Physiology.

Dr. Douglas J. Stuart, Associate Professor, Physiology

Dr. Stuart comes to the University of Arizona from the University of California at Davis, where he was Associate Professor of Physiology. Dr. Stuart is a neurophysiologist, whose interests are in the function of the hypothalamus and in reflex activity. Dr. Stuart was born and raised in Australia, but received his undergraduate and graduate training in this country. He received the Bachelor of Science and Master of Arts Degrees from Michigan State University. He received his Ph.D. degree from the University of California at Los Angeles in 1961. After receiving his Ph.D. degree, he was a Medical Research Fellow in the Department of Anatomy and subsequently Assistant Professor of Physiology at UCLA. He joined the faculty of the University of California at Davis in 1965. Dr. Stuart is the author of 33 publications in research journals. He will have responsibility for teaching neurophysiology to the medical class.

Facilities

The Department of Physiology is located on the fourth floor of the Basic Science Building, occupying the West Wing. The space and facilities of the department are similar to those of the Department of Anatomy, which are described in detail elsewhere in this issue. Located in the Department are a cardiovascular laboratory for the study of blood flow and local regulatory mechanisms in the microcirculation and a neurophysiological laboratory for study of reflex activity in single cells of the spinal cord and for study of hypothalamic function. In the future, as additional staff is added, we will be developing a laboratory for study of comparative renal function in which the various adaptive mechanisms in desert animals, mammalian and nonmammalian can be studied and compared with human renal function. We also plan to add an endocrinologist to the staff with special competence in the area of water balance and electrolytes. Additional staff members will be added in the areas of muscle physiology and physiological regulatory systems. The major teaching areas of physiology will be well represented in the department. In the area of research, there will be a special emphasis on the matter of water and electrolytic balance as seen from the standpoint of renal, endocrine, cardiovascular, neurophysiological and cellular function.

Teaching Medical Physiology

The role of the Department of Physiology in the College of Medicine is to introduce the medical student to the various aspects of the normal function of the body. In the course of his study in Physiology, the student will become acquainted with the basic principles which govern the function of the nerves, muscles and the central nervous system, the heart and the circulatory system; the respiratory system, the endocrine system, the kidney, and the gastrointestinal tract.

The department will present the course in Physiology in the Second Semester of the Freshman Year. The course will consist of lectures, laboratory and informal conference periods. The modern facilities will provide an unexampled opportunity for the staff as well as the student. Television display systems will make it possible for instructors to demonstrate to groups of students the fine details of a preparation which ordinarily are difficult to demonstrate to a group. In this fashion the instructor will have additional flexibility in the type of material which can be presented to a lecture or conference group.

Physiology laboratory will be presented in the multidiscipline laboratories, which hold 16 students. Each group of 16 will be attended by a senior faculty member and his assistant, who will be either a junior faculty member, an advanced doctoral student ,or a post-doctoral fellow. The close working relationship between students and faculty which this arrangement permits will be most helpful to the student in obtaining maximal help and advice in the course of his training in Physiology. It is our goal to help the student in every way possible to assimilate the important principles of Physiology, bearing in mind that the principles of function which the student learns in Physiology form the basis upon which his training in clinical areas can be built.

Perhaps it is a truism to state that the student must first understand normal function before he can truly appreciate abnormal function. From this standpoint, the Department of Physiology plays a crucial role in the student's educational process. A solid grounding in the physiology of the various systems and sub-systems of the total man will be of considerable help in appreciating the nature of the abnormalities he observes in the clinic.

In addition to explaining the behaviour of the individual systems of the body as the physiologist sees them, another function of the physiology course will be to explore the interactions between systems; e.g., between the kidney and the cardiovascular system. We know, of course, that this plays an important role in disease states as one system attempts to compensate for inadequate function of another system.

We hope to instill in the students an appreciation of the importance of an analytical approach to body function. This will be an important aspect of his laboratory experience. Physiology relies ultimately upon quantitation, therefore, the students will be exposed to the various ways in which physiological function can be quantitated. These principles will provide training essential to the student facing the task of understanding the complex behavior in disease states. The orientation of the student's introduction to the discipline of physiology will be toward basic mechanisms.

The assumption which is being made in structuring our course in Physiology is that the tremendous strides which we have seen in medicine in our own day are but reflections of what is in store in the future. The practice of medicine twenty or thirty years from now, when this, the first class will be in its prime, will certainly be considerably different from that which is current today. On this basis, then, we must anticipate the principles which are going to be important to the student in the future and instill an understanding of these into the student.

The facilities of the Basic Science Building will be of considerable help in this regard. We all recall the days of frustration in the physiology laboratory, attempting to make a decent record of the contraction of a frog gastrocnemius muscle or a piece of rabbit intestine on a smoked drum. Fortunately, our students will be spared much of this frustration by our well-equipped and staffed laboratory, complete with modern instrumentation. The electronic recorder used by the Physiologist today is actually easier to set up and operate than the venerable kymograph recorder of yesterday. Once the student learns the principles of operation, a lesson which can be accomplished in a few hours, an analytical instrument relatively trouble-free with great capabilities is at his command. The goal of the teaching laboratory will be to allow the student to observe for himself as many physiological phenomena as possible. During the laboratory experiments, not only does the student gain appreciation for the physiological function, but he also gains some insight into how these phenomena are measured. The student must thus develop his critical faculties as well as his skills in obtaining basic information on physiologic function. Basically, we would like to produce students who are capable of critically analyzing the results which they obtain and who are also critical analysts of information obtained by others. The student must learn to make decisions based upon information he receives. This must be based on his own estimate of whether the technics used are reliable or not. Of course this cannot be done in great detail in the physiology laboratory, but a beginning can be made in this direction, which he can build upon later. As instrumentation becomes more and more a part of modern medicine, he will find that his experiences in the physiology laboratory have been valuable to him in understanding the ways in which useful information can be obtained on patients with modern instrumentation.

The student, then, will learn the principles of quantitation as well as the principles of Physiology. The well-trained student should be able to quantitate the important phenomena which he has studied. Thus, measurement and an appreciation of the usefulness of normal values, will be an important aspect of his laboratory experience.

Relation to Clinical Departments

It is anticipated that the members of the Department of Physiology will serve an important function as resource people to the staff of the clinical departments. The goal of the department will be to provide such guidance as may be useful to the clinically oriented individual in his own studies directly with patients. The members of the Department of Physiology will be engaged in research which is basic in nature but which is potentially useful in solving clinical problems. While most of our staff will not be trained in clinical areas, nonetheless it is our hope that we can have close working relationship with individuals in clinical departments who have common areas of interest. This may carry over, also, into research, in which it can be anticipated that there may be research projects of a clinical nature in which members of the Physiology Department may be involved.

Future Growth of the Department

In the next two years we anticipate that the Department will expand from its present size up to six or seven full-time staff members. In addition, we expect that we will have graduate students and post-doctoral fellows in the Department, working with individual professors in their areas of particular interest. These additional individuals will provide an added source of strength for our teaching because of their specialized knowledge of and interest in particular aspects of physiology. We expect to develop special competence in the areas of adaptive and regulatory mechanisms, especially those which are important in coping with environmental stresses.

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Talwin is the new potent non-narcotic injectable analgesic which is indicated for relief of all types and degrees of pain in acute and chronic disorders. Talwin 30 mg. is usually as effective an analgesic as morphine 10 mg. or meperidine 75 to 100 mg., but needs no narcotics controls; its duration of action may sometimes be less than that of morphine.

Talwin is relatively free from adverse effects of morphine, such as constipation, urinary retention, or severe respiratory depression. It has been used, in varying dosages, in over 12,000 patients for relief of pain of medical disorders, of active labor and postoperative pain; also for preoperative or preanesthetic medication, and as an adjunct to anesthesia.

A brochure incorporating analyzed information on Talwin is available. The completeness of the information will permit you to evaluate the role Talwin can play in your practice.

You can depend on Talwin to relieve pain:

WHATEVER the intensity of the pain
the cause of the pain
the site* of the pain
the duration of the pain
the chronicity of the pain
the age† of the patient

Talwin does not require a narcotics prescription

The World Health Organization Expert Committee on Dependence-Producing Drugs concluded that "... there was no need at this time for narcotics control of pentazocine [Talwin] internationally or nationally." (*WHO Tech. Rep. Ser.,* No. 343, 1966, p. 6.)

It is our sincere belief that the discovery of Talwin by Winthrop Laboratories will be of great value to you and your patients for whom you may have to prescribe a potent analgesic.

*Talwin should not be used for patients with increased intracranial pressure, head injury or pathologic brain conditions.

†Until sufficient experience is gained, it should not be administered to children under 12 years of age.

Talwin — brand of pentazocine (as lactate)

Contraindications: *Increased Intracranial Pressure, Head Injury, or Pathologic Brain Conditions in which clouding of sensorium is undesirable.* Talwin (brand of pentazocine) should not be administered in these cases, since drug-induced sedation, dizziness, nausea, or respiratory depression could be misleading.

Precautions: *Pregnancy.* No teratogenic or embryotoxic effects attributable to the use of Talwin have been seen in extensive reproductive studies in animals; however, like all new drugs, Talwin should be given with caution to pregnant women. A large number of patients in labor have received the drug with no adverse reactions other than those that occur with commonly used strong analgesics. However, as with other strong analgesics, Talwin should be used with caution in women delivering premature infants.

Ambulatory Patients. Since sedation, dizziness, and occasional euphoria have been noted, ambulatory patients should be warned not to operate machinery, drive cars, or unnecessarily expose themselves to hazards.

Certain Respiratory Conditions. The possibility that Talwin (brand of pentazocine) may cause respiratory depression should be considered in treatment of patients with bronchial asthma. Talwin (brand of pentazocine) should be administered only with caution and in low dosage to patients with respiratory depression (e.g., from other medication, uremia, or severe infection), obstructive respiratory conditions, or cyanosis.

Patients Dependent on Narcotics. Because Talwin is a narcotic-antagonist, patients dependent on narcotics and receiving Talwin may occasionally experience certain withdrawal symptoms. Talwin should be given with special caution to such patients. It has been observed that some patients previously given narcotic-analgesics for one month or longer had mild withdrawal symptoms when the drug was replaced with the analgesic, Talwin. After a short period of adjustment the subjects were usually able and willing to continue taking Talwin, and relief of pain was satisfactory.

Nonaddicted Patients Receiving Narcotics. Symptoms believed to be indicative of antagonism to the opiate may be observed rarely with administration of Talwin to patients receiving opiates for a short time. Intolerance or untoward reactions are seldom observed after administration of Talwin to patients who have received single doses or who have had limited exposure to narcotics.

Impaired Renal or Hepatic Function. Although laboratory tests have not indicated that Talwin (brand of pentazocine) causes or increases renal or hepatic impairment, the drug should be administered with caution to patients with such impairment. Extensive liver disease appears to predispose to greater side effects (e.g., marked apprehension, anxiety, dizziness, sleepiness) from the usual clinical dose, and may be the result of decreased metabolism of the drug by the liver.

Myocardial Infarction. As with all drugs, Talwin (brand of pentazocine) should be used with caution in patients with myocardial infarction who have nausea or vomiting.

Biliary Surgery. Until further experience is gained with the effects of Talwin on the sphincter of Oddi, the drug should be used with caution in patients about to undergo surgery of the biliary tract.

Adverse Effects: Talwin is relatively free from the undesirable side effects associated with morphine, such as constipation, urinary retention, or severe respiratory depression. Furthermore, Talwin produces less nausea, vomiting, and diaphoresis than meperidine.

In over 12,000 patients who received Talwin intramuscularly, subcutaneously, or intravenously, nausea, the most frequent adverse effect, occurred in approximately 5.0 per cent. In decreasing order of occurrence were vertigo, dizziness or lightheadedness; vomiting; and euphoria. Respiratory depression was reported as an adverse reaction in 1.0 per cent.

The incidence of each of the other adverse effects was well below 1.0 per cent: constipation, circulatory depression, diaphoresis, urinary retention, alteration in mood (nervousness, apprehension, depression, floating feeling), hypertension, sting on injection, headache, dry mouth, flushed skin including plethora, altered uterine contractions during labor, dermatitis including pruritus, dreams, paresthesia, and dyspnea occurred rarely after administration of Talwin (brand of pentazocine). Furthermore, each of the following adverse reactions occurred in less than 0.1 per cent: tachycardia, visual disturbance (blurred vision, diplopia and nystagmus), hallucinations, disorientation, weakness or faintness, muscle tremor, chills, allergic reactions including edema of the face, taste alteration, insomnia, diarrhea, cramps, and miosis; laryngospasm in one patient.

Talwin has not produced severe respiratory embarrassment in adults (never apnea), even with large amounts. A small number of newborn infants whose mothers received Talwin during labor had transient apnea. The incidence of temporary diminution in the rate or strength of uterine contractions is low after administration of Talwin, similar to that following meperidine hydrochloride. (In reporting no interference with normal labor in patients receiving Talwin, one investigator further stated that the drug may increase uterine activity.) Generally, no significant fetal heart rate change occurs.

Laboratory tests of blood and of liver and kidney functions have revealed no significant abnormalities. A minimum and probably insignificant increase in the per cent of eosinophils in peripheral blood counts and bone marrow occurred occasionally.

Talwin is well tolerated by patients with diabetes mellitus, and no changes in insulin requirements have been observed.

Dosage and Administration: *Adults, Excluding Patients in Labor.* Average recommended single parenteral dose is 30 mg., by intramuscular, subcutaneous, or intravenous route; may be repeated every three to four hours. Pain has been relieved in most patients with not more than three doses daily. Infrequently, selected patients have received single doses as high as 60 mg. *Patients in Labor.* A single, intramuscular 30 mg. dose has been most commonly administered. An intravenous 20 mg. dose has given adequate pain relief to some patients in labor when contractions become regular, and this dose may be given two or three times at two- to three-hour intervals, as needed.

Children Under 12 Years of Age. Since clinical experience in children under twelve years of age is limited, the use of Talwin (brand of pentazocine) in this age group is not recommended.

Duration of Therapy. Patients with chronic pain who received Talwin for prolonged periods (e.g., over 300 days) experienced no withdrawal symptoms even when administration was stopped abruptly; furthermore, there was no tolerance to the analgesic effect.

CAUTION. Talwin should not be mixed in the same syringe with soluble barbiturates because precipitation will occur.

Treatment of Overdosage or Respiratory Depression. Talwin has not produced apnea or severe respiratory embarrassment in adults, even in large doses. Occasionally, however, moderate respiratory depression may occur. Means of maintaining oroper oxygenation should be available in case of overdosage or respiratory depression, and methylphenidate (Ritalin®) should be administered parenterally. The usual narcotic-antagonists, such as nalorphine, are not effective respiratory stimulants for depression due to Talwin.

How Supplied: ***Ampuls of 1 ml.*, containing Talwin® (pentazocine) as lactate equivalent to 30 mg. base** and 2.8 mg. sodium chloride, in Water for Injection. **Boxes of 10, 25, and 100.**

***Multiple dose vials* of 10 ml., each 1 ml. containing Talwin (pentazocine) as lactate equivalent to 30 mg. base,** 2 mg. acetone sodium bisulfite, 1.5 mg. sodium chloride, and 1 mg. methylparaben as preservative, in Water for Injection. **Boxes of 1.**

The pH of Talwin solutions is adjusted between 4 and 5 with lactic acid and sodium hydroxide.

Winthrop

Winthrop Laboratories, New York, N.Y. 10016

ARIZONA'S PACESETTER BANK
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Is in Business to Serve YOU — and
YOUR BENEFICIARIES!

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HBA'S PROTOTYPE PLAN
GIVES YOU YOUR OWN
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WITHOUT ANY ACTION ON
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SEND NOW FOR YOUR PERSONALIZED KEOGH TAX SAVINGS PLAN. OUR PROTOTYPE PLAN HAS BEEN APPROVED AND IS READY FOR YOU.

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Your contributions to your own retirement fund will be 100% tax deductible for taxable years beginning January 1, 1968. HBA's Prototype Plan allows you to take advantage of tax advantages presently available and, without further effort on your part, have a plan already in force by January 1, 1968.

THE HBA LIFE
INSURANCE COMPANY
P.O. Box 1272, Phoenix 85001
Phone 258-4885

Fill out the Keogh Data Sheet below and mail to HBA Life or phone 258-4885 to see what HBA's Prototype Plan can mean to you in tax savings.

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KEOGH DATA SHEET

ALL INFORMATION KEPT CONFIDENTIAL

Date____________________

Name____________________ M.D. Sex______ Date of Birth________

Address____________________ City________ State______ Zip______

Net Income From Your Practice $________ For 1966 $________ For 1965 $________ For 1964

Do You Have an Ownership in Any Unincorporated Trade or Business?________

NOTE: If your practice is a partnership, please attach separate information giving the same data as above for each partner.

Employees, If Any:

Name	Sex	Date of Birth	Date Employed	Salary	Full or Part Time

Don't let monilia cut broad-spectrum therapy short...

start with Tetrex-F®

tetracycline phosphate complex-nystatin

Use of broad-spectrum antibiotics can cause fungal overgrowth in the alimentary tract... and give rise to symptoms so troublesome that therapy must be prematurely stopped. Tetrex-F (tetracycline phosphate complex-nystatin) helps you circumvent this problem.

The nystatin can prevent overgrowth of monilia; the phosphate complex delivers tetracycline to the blood rapidly. Side effects are infrequent.

High-Risk Patients

Tetrex-F (tetracycline phosphate complex-nystatin) is especially useful in patients most susceptible to fungal overgrowth during tetracycline therapy: (1) the elderly or debilitated, (2) young children, (3) the diabetic, (4) those on long-term tetracycline therapy, (5) those on steroid therapy, (6) those who have had moniliasis before, and (7) pregnant patients with a history of monilial vaginitis.

When you start with economical Tetrex-F (tetracycline phosphate complex-nystatin), you can complete the full course of broad-spectrum therapy with less chance of losing control elsewhere. A good start for a healthy finish.

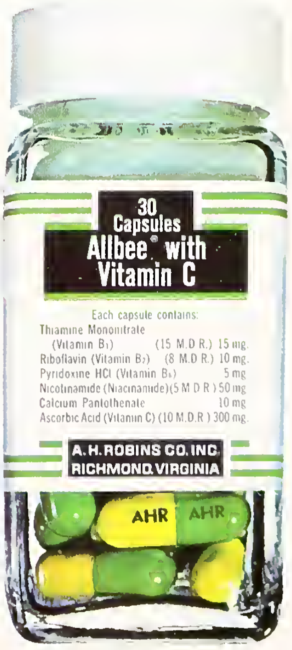
PRESCRIBING INFORMATION. For complete information consult Official Package Circular. *Indications:* Infections of respiratory, gastrointestinal and genitourinary tracts and skin and soft tissues due to tetracycline-sensitive organisms, in patients with increased susceptibility to monilial infections. *Contraindications:* The drug is contraindicated in patients hypersensitive to its components. *Warnings:* Photodynamic reactions have been produced by tetracyclines. Natural and artificial sunlight should be avoided during therapy. Stop treatment if skin discomfort occurs. With renal impairment, systemic accumulation and hepatotoxicity may occur. In this situation, lower doses should be used. Tooth staining and enamel hypoplasia may be induced during tooth development (last trimester of pregnancy, neonatal period and childhood). *Precautions:* Bacterial superinfections may occur. Infants may develop increased intracranial pressure with bulging fontanels. In gonorrheal therapy, serologic tests for syphilis should be conducted initially and monthly for 3 months. *Adverse Reactions:* Glossitis, stomatitis, nausea, diarrhea, flatulence, proctitis, vaginitis, dermatitis, and allergic reactions may occur. *Usual Adult Dosage:* 1 capsule q.i.d. Continue for 10 days in Beta-hemolytic streptococcal infections. Administer one hour before or two hours after meals. *Supplied:* Capsules, bottles of 16 and 100. Each capsule contains tetracycline phosphate complex equivalent to 250 mg. tetracycline HCl activity and 250,000 units of nystatin. For Oral Suspension, 125 mg. tetracycline and 125,000 u. nystatin/5 ml., 60 ml. bottles.

BRISTOL

BRISTOL LABORATORIES
Division of Bristol-Myers Company
Syracuse, New York 13201

Two ways to give your patients a month's therapeutic supply of vitamin C:

118 grapefruit or 30 Allbee® with C


30 Capsules
Allbee® with Vitamin C
Each capsule contains:
Thiamine Mononitrate (Vitamin B1) (15 M.D.R.) 15 mg.
Riboflavin (Vitamin B2) (8 M.D.R.) 10 mg.
Pyridoxine HCl (Vitamin B6) 5 mg
Nicotinamide (Niacinamide)(5 M.D.R.) 50 mg
Calcium Pantothenate 10 mg
Ascorbic Acid (Vitamin C) (10 M.D.R.) 300 mg.
A. H. ROBINS CO. INC.
RICHMOND, VIRGINIA
AHR
AHR

Your patient would have to eat 118 medium-sized grapefruit (almost 4 a day!) to get as much vitamin C as is provided in just one bottle of 30 Allbee with C capsules (taken one capsule daily). In addition, each capsule supplies full therapeutic amounts of the B-complex vitamins.

Your patients can purchase Allbee with C capsules in the convenient bottle of thirty—a month's supply at a very reasonable price. Also the economy size of 100. Available at pharmacies everywhere on your prescription or recommendation.

A-H-ROBINS

A. H. Robins Company, Richmond, Virginia

the spasm
reactors
in your practice
deserve

"the Donnatal® Effect"

	each tablet, capsule or 5 cc. of elixir (23% alcohol)	each Extentab®
hyoscyamine sulfate	0.1037 mg.	0.3111 mg.
atropine sulfate	0.0194 mg.	0.0582 mg.
hysocine hydrobromide	0.0065 mg.	0.0195 mg.
phenobarbital	(¼ gr.) 16.2 mg.	(¾ gr.) 48.6 mg.
(Warning: may be habit forming)		

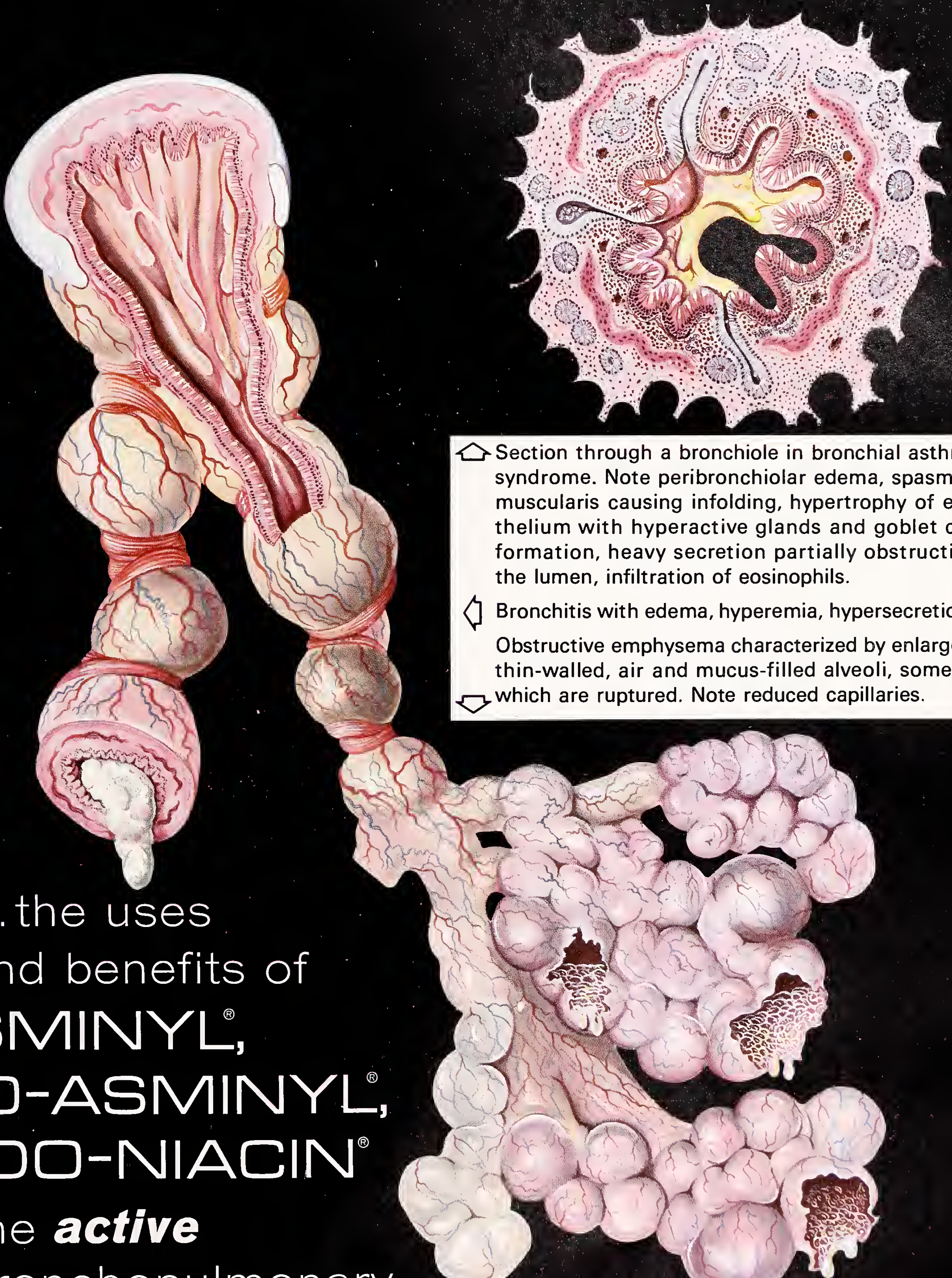
A. H. ROBINS COMPANY, RICHMOND, VIRGINIA 23220

Brief summary. Blurring of vision, dry mouth, difficult urination, and flushing or dryness of the skin may occur on higher dosage levels, rarely on usual dosage. Administer with caution to patients with incipient glaucoma or urinary bladder neck obstruction. Contraindicated in acute glaucoma, advanced renal or hepatic disease or a hypersensitivity to any of the ingredients.

A-H-ROBINS

COLE PHARMACAL COMPANY PRESENTS

Features of ASTHMA, BRONCHITIS, EMPHYSEMA



Section through a bronchiole in bronchial asthma syndrome. Note peribronchiolar edema, spasm of muscularis causing infolding, hypertrophy of epithelium with hyperactive glands and goblet cell formation, heavy secretion partially obstructing the lumen, infiltration of eosinophils.

Bronchitis with edema, hyperemia, hypersecretion.

Obstructive emphysema characterized by enlarged, thin-walled, air and mucus-filled alveoli, some of which are ruptured. Note reduced capillaries.

...the uses
and benefits of
ASMINYL®,
ISO-ASMINYL®,
IODO-NIACIN®
the ***active***
bronchopulmonary
agents

IN ASTHMA, ACUTE OR CHRONIC BRONCHITIS, BRONCHIECTASIS, EMPHYSEMA . . . SPECIFY THE COLE *ACTIVE* BRONCHOPULMONARY AGENTS:

Effective Symptomatic Relief of Asthma, Bronchitis, Emphysema

Unsurpassed ephedrine, phenobarbital, theophylline complementary actions. ⅓ more ephedrine for more pronounced bronchial muscle relaxation. Low phenobarbital dosage permits greater flexibility in treating the asthmatic's anxiety.

ASMINYL®

Each tablet contains:
Phenobarbital Sodium....... 8 mg.
(Barbituric acid derivative)
Warning: May be habit forming.

Ephedrine Sulfate........... 32 mg.
Theophylline Hydrous.......130 mg.

INDICATIONS: For the temporary relief of the paroxysms of bronchial asthma. Also indicated for the temporary relief of bronchospasm associated with pulmonary emphysema and acute or chronic bronchitis.

DOSAGE: The average adult dose for Asminyl is 1 tablet. May be repeated every 4 hours depending upon clinical response.

HOW SUPPLIED: Tablets in bottles
100, 500, and 1,000. List No. 6077
Gray (Scored).

CAUTION: Federal Law Prohibits Di
pensing Without Prescription.

SIDE EFFECTS: Serious adverse si
effects from the use of Asminyl a
rare. Central nervous system excit
tion or depression may occur, as w
as gastric irritation. Occasional idi
syncrasy to phenobarbital has o
curred. Contraindicated in hyperte
sion, cardiac disease, diabetes, ar
hyperthyroidism.

WARNING: Preparations containir
phenobarbital sodium may becom
habit forming on continued use.

Quick Action in Asthma, Emphysema, Bronchitis

Immediate and sustained relief of bronchospasm through sublingual absorption of the powerful bronchodilator, isoproterenol, plus the more prolonged actions of phenobarbital, ephedrine, and theophylline.

ISO-ASMINYL®

Each tablet contains:
Phenobarbital Sodium....... 8 mg.
(Barbituric acid derivative)
Warning: May be habit forming.
Isoproterenol Hydrochloride* 10 mg.
Ephedrine Sulfate........... 32 mg.
Theophylline Hydrous.......130 mg.
*In outer coating for sublingual absorption.

INDICATIONS: For the immediate and sustained relief of bronchospasm associated with bronchial asthma, pulmonary emphysema, and acute or chronic bronchitis.

DOSAGE: One tablet held sublingually for 5 minutes, then swallowed. Repeat in 3 or 4 hours as needed for relief of symptoms. Not more than 5 tablets in 24 hours.

HOW SUPPLIED: Tablets in bottles
100, 500, and 1,000. List No. 6048
S. C. Brown.

CAUTION: Federal Law Prohibits Di
pensing Without Prescription.

SIDE EFFECTS: Serious adverse r
actions are rare. Occasional nervou
ness, palpitations, tachycardia, i
somnia, and central nervous syste
excitation have been observed. Co
traindicated in hypertension, hype
thyroidism, cardiac disease, and di
betes mellitus.

WARNING: Preparations containin
phenobarbital sodium may becom
habit forming on continued use.

Proven Expectorant for Active Liquefaction of Tenacious Bronchial Secretions

"Iodide salts are useful *expectorants* when it is desired to liquefy tenacious bronchial secretions, for example, in the later stages of bronchitis, bronchiectasis, and asthma."

Goodman, L. S., and Gilman, A.: *The Pharmacological Basis of Therapeutics,* New York, The Macmillan Company, 1965, 3rd ed., p. 815.

IODO-NIACIN PROVIDES KI IN VIRTUALLY TASTE-FREE TABLETS.

IODO-NIACIN®

Each Slosol coated tablet contains:
Potassium Iodide...........135 mg.
Niacinamide Hydroiodide . . . 25 mg.

INDICATIONS: The use of Iodo-Niacin is indicated whenever an expectorant action is desired to increase the flow of bronchial secretion and thin out tenacious mucus as seen in bronchial asthma, and other chronic pulmonary disease. Iodo-Niacin has also proven of value in sinusitis, bronchitis, bronchiectasis, and other chronic and acute respiratory diseases where the expectorant action of iodide is desired.

DOSAGE: The oral dose for adults is two tablets after meals taken with a glass of water. For children over eight years, one tablet after meals with water. The dosage should be individualized according to the needs of the patient on long-term therapy.

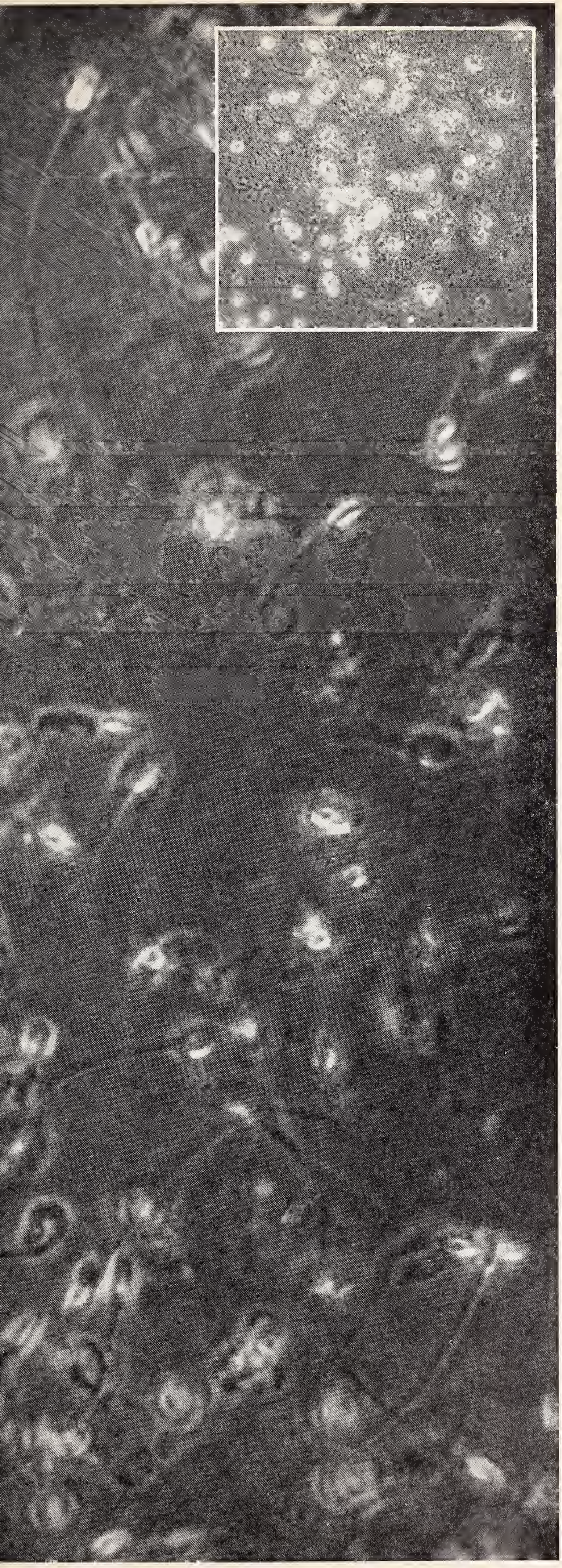
CAUTION AND SIDE EFFECTS: Ser
ous side effects from Iodo-Niacin ar
rare. Caution is recommended in pe
sons with known sensitivity to iodides
Pulmonary tuberculosis is considere
a contraindication to the use of iodide
by some authorities, and should b
used with caution in such cases. A
with all drugs, Iodo-Niacin may caus
an idiosyncrasy in some patients
Rare cases of goiter with hypoth
roidism have been reported in adult
who had taken iodides for prolonge
periods and in newborn infants whos
mothers had taken iodides fo
prolonged periods. Use appropriat
precaution in pregnancy and in ind
viduals receiving Iodo-Niacin fo
prolonged periods.

HOW SUPPLIED: Iodo-Niacin tablet
are available in bottles of 100, 50
and 1,000. List No. 64580, Slos
coated pink.

CAUTION: Federal Law Prohibits Dispensing Without Prescription.

COLE PHARMACAL COMPANY, INC.
3721 Laclede Avenue • St. Louis, Missouri 63108

March 1, 1967 Form No. 757 Printed in U.S.A.



New view of an oral contraceptive at work

Although suppression of ovulation remains the primary mode of action of oral contraceptives, newer knowledge indicates that products like Norinyl-1 — a combination of both low-dosage progestogen and estrogen for the full treatment cycle — may provide multiple action that helps explain their unexcelled record of contraceptive effectiveness. This report explores the possible secondary protective mechanisms offered by combined hormonal administration.

Accumulating evidence has indicated that sparse, highly viscous cervical mucus has a possible adverse effect on the motility and survival of spermatozoa.

The estrogen-opposing progestational ingredient of Norinyl-1 (norethindrone 1 mg. with mestranol 0.05 mg.) changes the usual mid-cycle picture of a thin, watery cervical mucus. The result — a built-in barrier that appears to inhibit sperm from reaching the ovum should one be released. The inset in the adjoining photograph shows immobile spermatozoa as they appear in cervical mucus taken from a patient treated with Norinyl-1.

See last page for contraindications, precautions, side effects and dosage.

How the estrogen-opposing action of Norinyl-1 creates cervical mucus that may be hostile to sperm penetration

Normally, estrogen activity during the fertile midcycle stimulates the production of a profuse and watery cervical mucus that permits maximum sperm motility and promotes penetration.

But what happens when Norinyl-1 is administered? Its potent progestogen, norethindrone, opposes estrogen stimulation of cervical mucus. Consequently, the amount of mucus decreases and its viscosity increases. This results in a sparse but thick mucus barrier that appears to diminish the vitality of the sperm and to impair its powers of penetration.

The role of viscous cervical mucus as a secondary action of Norinyl-1

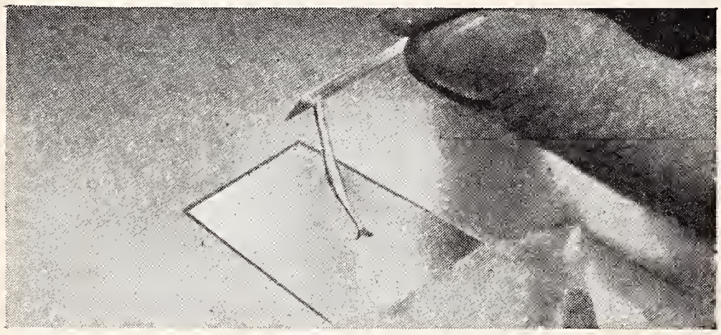
In a report on 89 patients taking this medication,* cervical mucus obtained from cycle day 5 to cycle day 29 appeared scant and thick and exhibited little or no Spinnbarkeit.

In the opinion of this investigator, the effect on cervical mucus may be sufficient to prevent conception.

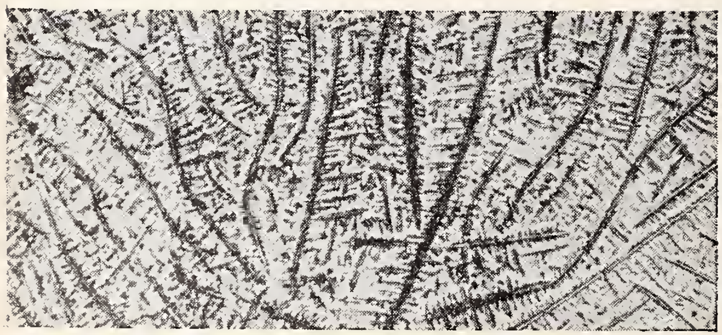
---

*Cohen, M. R.: Symposium: Mechanisms of Action of Low Dosage Oral Contraceptive, Yale University Medical Center, New Haven, Conn., April 6, 1967.

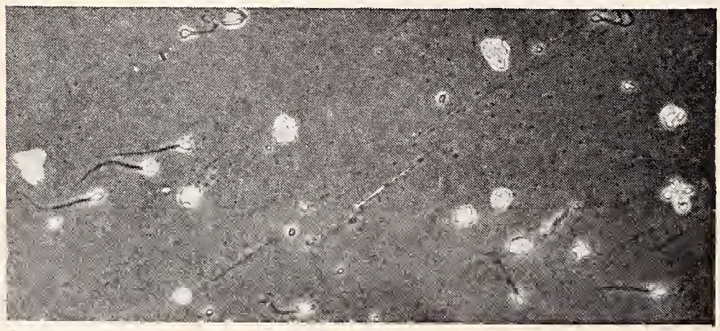
Normal cervical mucus at midcycle in untreated patient is known to permit sperm motility... promote sperm penetration.



Cervical mucus is thin and watery with a stretchability (Spinnbarkeit) of 15 to 20 cm.

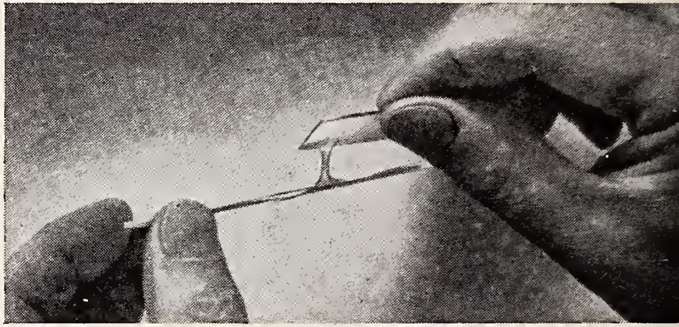


Thin, watery mucus crystallizes into this well-defined, fernlike pattern within a minute.

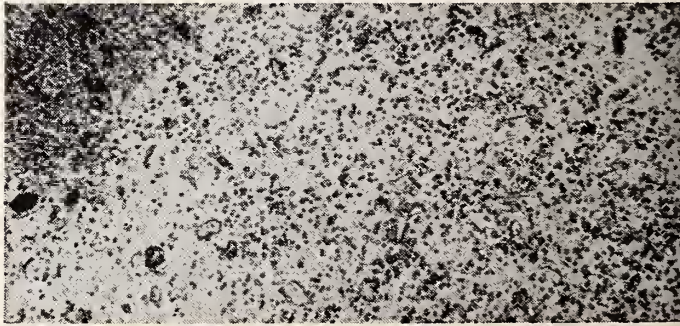


Spermatozoa appear healthy, are active and freemoving.

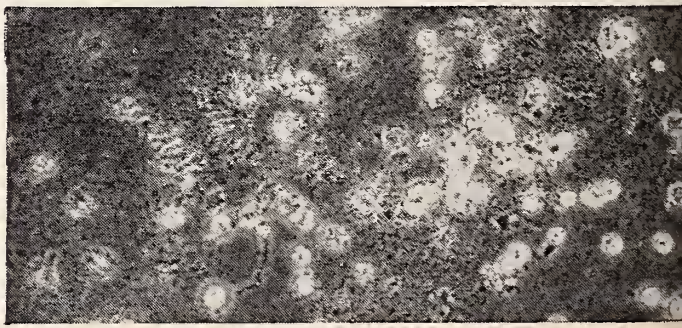
Viscous cervical mucus at midcycle produced by Norinyl-1 appears to impair sperm vitality... inhibit penetration.



Cervical mucus is scanty, thick and viscous. Spinnbarkeit is 1 cm. or less.



In thick, viscous cervical mucus the fern pattern is poorly defined or absent.

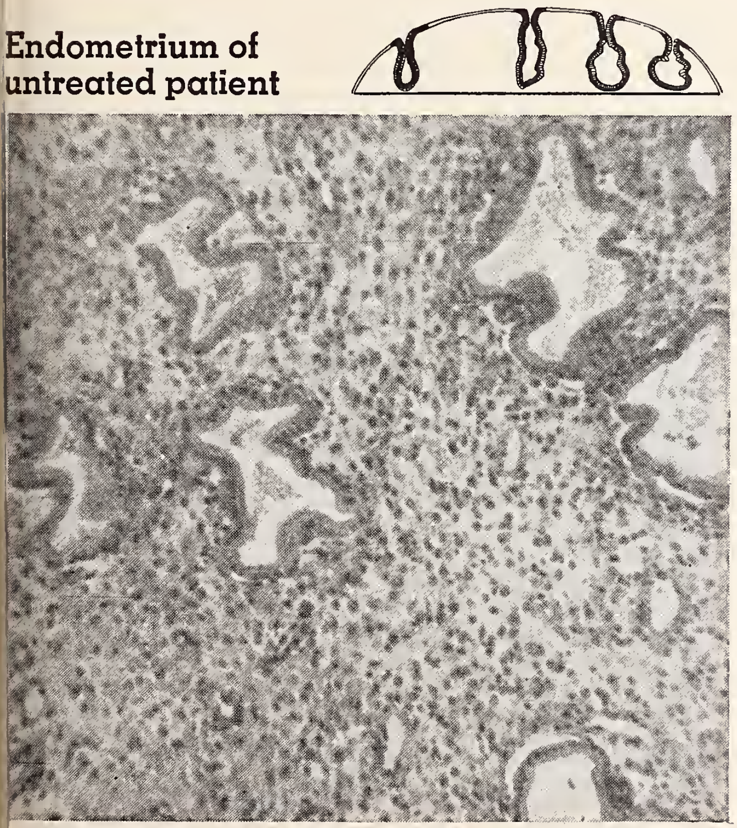


Immobile spermatozoa as they appear in cervical mucus taken from a patient treated with Norinyl-1.

How Norinyl-1 alters normal endometrial responses—another possible protective mechanism

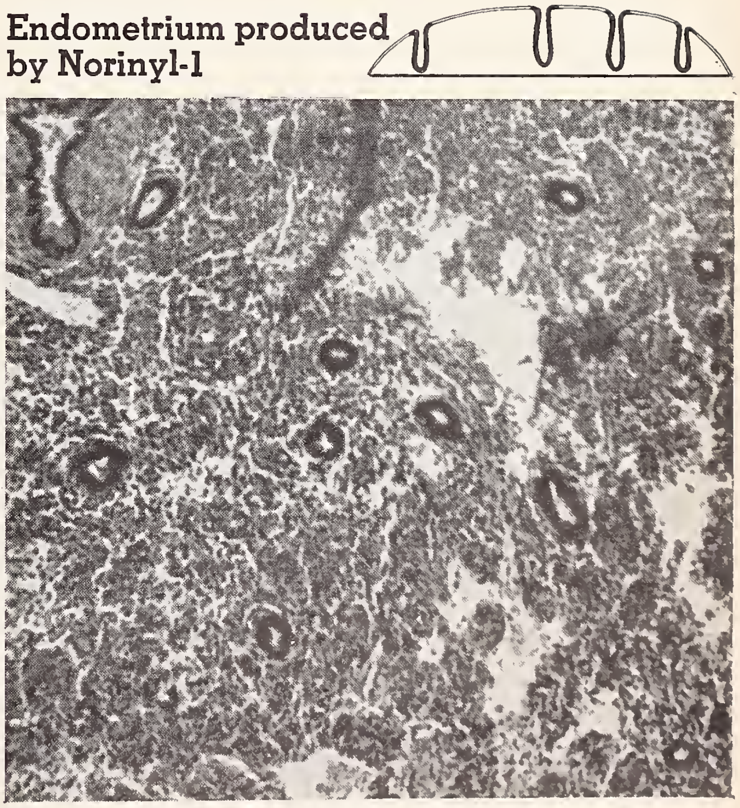
Let us suppose that an ovum is released—as occurs in an occasional, rare case—and somehow a sperm succeeds in penetrating the cervical mucus barrier. Should this come about, one additional action of Norinyl-1 may protect the patient from unwanted pregnancy. The theory is that progestogen intake makes endometrial tissue unreceptive to implantation.

Endometrium of untreated patient



Normally, the endometrium progresses through a proliferative phase stimulated by estrogen and a secretory phase stimulated by progesterone. During the secretory phase the endometrium is receptive to the fertilized ovum.

Endometrium produced by Norinyl-1



When Norinyl-1 is administered its progestogen component—norethindrone—accelerates the secretory phase and suppresses glandular and vascular development.

new **Norinyl-1**® tablets

(norethindrone 1mg. c̄ mestranol 0.05mg.)

See last page for contraindications, precautions, side effects and dosage.

effective fertility control
on half the previous dosage

maintains ratio
of the established
norethindrone/mestranol
combination

lower cost

new
Norinyl-1®
tablets

(norethindrone 1mg. c̄ mestranol 0.05mg.)

Reduction of oral contraceptive dosage to lowest effective levels has become a well-accepted principle of conservative medical practice. In keeping with this view, Norinyl is now available in a new strength in which *both* norethindrone and mestranol are reduced 50 percent. Studies show that Norinyl-1 achieves fertility control with only 1.05 mg. of combined progestogen and estrogen per tablet.

Norethindrone was first reported for use as a progestational agent in human beings in 1955. Norethindrone 2 mg. with mestranol 0.1 mg., as an oral contraceptive, is currently in use by over 2,000,000 women. Clinical experience now establishes that Norinyl-1 also amply meets the criteria of reliability and safety.*

*Symposium on Low-Dosage Oral Contraception, Palo Alto, Calif., July 15, 1965.

PRESCRIBING INFORMATION

Contraindications: 1. Patients with thrombophlebitis or with a history of thrombophlebitis or pulmonary embolism. 2. Liver dysfunction or disease. 3. Patients with known or suspected carcinoma of the breast or genital organs. 4. Undiagnosed vaginal bleeding.

Warnings: 1. Discontinue medication pending examination if there is sudden partial or complete loss of vision or if there is a sudden onset of proptosis, diplopia, or migraine. If examination reveals papilledema or retinal vascular lesions, medication should be withdrawn. 2. Since the safety of Norinyl-1 in pregnancy has not been demonstrated, it is recommended that for any patient who has missed two consecutive periods, pregnancy should be ruled out before continuing the contraceptive regimen. If the patient has not adhered to the prescribed schedule, the possibility of pregnancy should be considered at the time of the first missed period. 3. Detectable amounts of the active ingredients in oral contraceptives have been identified in the milk of mothers receiving these drugs. The significance of this dose to the infant has not been determined.

Precautions: 1. The pretreatment physical examination should include special reference to breast and pelvic organs, as well as a Papanicolaou smear. 2. Endocrine and possibly liver function tests may be affected by treatment with Norinyl-1. Therefore, if such tests are abnormal in a patient taking Norinyl-1, it is recommended that they be repeated after the drug has been withdrawn for 2 months. 3. Under the influence of estrogen-progestogen preparations, preexisting uterine fibroids may increase in size. 4. Because these agents may cause some degree of fluid retention, conditions that may be influenced by this factor, such as epilepsy, migraine, asthma, cardiac, or renal dysfunction, require careful observation. 5. Although a cause and effect relationship has not been established, Norinyl-1 should be used with caution in patients with a history of cerebrovascular accident. 6. In relation to breakthrough bleeding, as in all cases of irregular bleeding per vaginam, nonfunctional causes should be borne in mind. In cases of undiagnosed vaginal bleeding, adequate diagnostic measures are indicated. 7. Patients with a history of psychic depression should be carefully observed and the drug discontinued if the depression recurs to a serious degree. 8. Any possible influence of prolonged Norinyl-1 therapy on pituitary, ovarian, adrenal, hepatic or uterine function awaits further study. 9. A decrease in glucose tolerance has been observed in a small percentage of patients on oral contraceptives. The mechanism of this decrease is obscure. For this reason, diabetic patients should be carefully observed while receiving Norinyl-1 therapy. 10. Because of the occasional occurrence of thrombophlebitis and pulmonary embolism in patients taking oral contraceptives, the physician should be alert to the earliest manifestations of the disease. A cause and effect relationship has not been demonstrated. 11. Because of the effects of estrogens on epiphyseal closure, Norinyl-1 should be used judiciously in young patients in whom bone growth is not complete. 12. The age of the patient constitutes no absolute limiting factor, although treatment with Norinyl-1 may mask the onset of the climacteric. 13. The pathologist should be advised of Norinyl-1 therapy when relevant specimens are submitted.

Side Effects: The following adverse reactions have been observed with varying incidence in patients receiving oral contraceptives: nausea, vomiting, gastrointestinal symptoms, breakthrough bleeding, spotting, change in menstrual flow, amenorrhea, edema, chloasma, breast changes (tenderness, enlargement and secretion), loss of scalp hair, change in weight (increase or decrease), changes in cervical erosion and cervical secretions, suppression of lactation when given immediately postpartum, cholestatic jaundice, erythema multiforme, erythema nodosum, hemorrhagic eruption, migraine, rash (allergic), itching, rise in blood pressure in susceptible individuals, mental depression.

The following occurrences have been observed in users of oral contraceptives. A cause and effect relationship has not been established: thrombophlebitis, pulmonary embolism, neuroocular lesions.

The following laboratory results may be altered by the use of oral contraceptives: increased bromsulphalein retention and other hepatic function tests, coagulation tests (increase in prothrombin, factors VII, VIII, IX and X), thyroid function (increase in PBI and butanol extractable protein-bound iodine and decrease in T^3 values), metapyrone test, pregnanediol determination.

Other side effects reported to have occurred in association with use of this drug are dizziness, hirsutism, pains in legs, back, chest and abdomen, dysuria, drowsiness, vaginal discharge, libido increased and decreased, eruptions, hypermenorrhea, hypomenorrhea, increased appetite, G.U. infections, varicose veins, abdominal fullness, acne, headache, nervousness, allergies, blurred vision, pain in eyes, and itching in eyes. *For complete clinical data, see package insert.*

Dosage and Administration: 1. One tablet of Norinyl-1 is administered orally for 20 days beginning on day 5 of the menstrual cycle. (Count day 1 of the cycle as the first day of menstrual bleeding.) Repeat this dosage schedule for each cycle. 2. If no menstrual period occurs after a cycle of treatment (20 tablets) in which patient adhered to the schedule, the patient must be instructed to resume taking the Norinyl-1 tablets 7 days after the previous 20-day course was completed. For example, if the last pill of a previous cycle had been taken on a Sunday, then a new cycle of treatment should begin on the following Sunday. 3. In the postpartum woman, it is recommended that the first cycle of treatment should begin on day 5 of the first menstrual cycle. However, Norinyl-1 should not be administered during lactation.

Availability: Norinyl-1 (norethindrone 1 mg. with mestranol 0.05 mg.)—Dispensers of 20 and 60 and bottles of 250 tablets.

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Each tablet and each 5 cc. of liquid contains:
diphenoxylate hydrochloride ....2.5 mg.
(Warning: May be habit forming)
atropine sulfate ....0.025 mg.

In six published studies[1-6] detailed results are given on the use of Lomotil in 111 patients with chronic ulcerative colitis. They show that Lomotil gave satisfactory to "excellent" control of diarrhea in more than two-thirds of these patients. As the disorder advances and destroys bowel musculature, the motility-lowering action of Lomotil, understandably, has less effect.

The successful use of Lomotil in a disorder as exceedingly difficult to treat as moderate ulcerative colitis emphasizes again its unsurpassed antidiarrheal effectiveness in these more common conditions:

- **Gastroenteritis**
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- **Spastic colon**
- **Drug induced diarrhea**
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Dosage: The recommended initial daily dosages, given in divided doses until diarrhea is controlled, are:

Children: Total Daily Dosage
3-6 mo. . . ½ tsp.*t.i.d. (3 mg.)
6-12 mo. . ½ tsp. q.i.d. (4 mg.)
1-2 yr. . . . ½ tsp. 5 times daily (5 mg.)
2-5 yr. . . . 1 tsp. t.i.d. (6 mg.)
5-8 yr. . . . 1 tsp. q.i.d. (8 mg.)
8-12 yr. . . 1 tsp. 5 times daily (10 mg.)
Adults: 2 tsp. 5 times daily (20 mg.)
or 2 tablets q.i.d.

*Based on 4 cc. per teaspoonful.
Maintenance dosage may be as low as one-fourth the initial daily dosage.

Precautions: Lomotil is a federally exempt narcotic preparation of very low addictive potential. Recommended dosages should not be exceeded, and medication should be kept out of reach of children. Should accidental overdosage occur signs may include severe respiratory depression, flushing, lethargy or coma, hypotonic reflexes, nystagmus, pinpoint pupils and tachycardia. Lomotil should be used with caution in patients with impaired liver function or those taking addicting drugs or barbiturates.
Side Effects: Side effects are relatively uncommon but among those reported are gastrointestinal irritation, sedation, dizziness, cutaneous manifestations, restlessness, insomnia, numbness of the extremities, headache, blurring of vision, swelling of the gums, euphoria, depression and general malaise.

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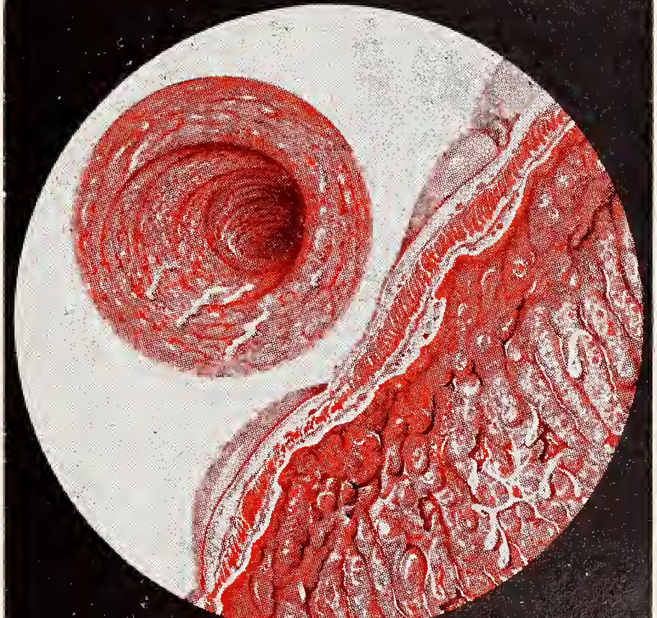
— bloody, mucoid, purulent stools



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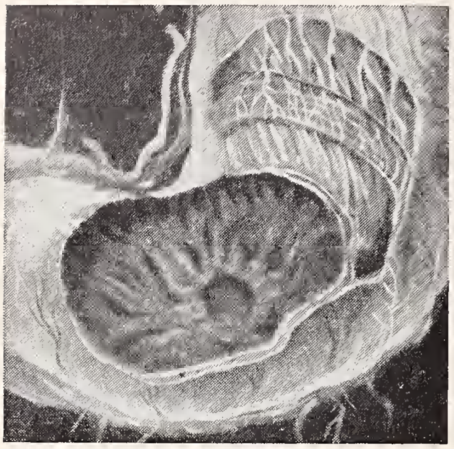

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this issue: smog, smaze or smust...

Smog, smaze or smust...effects of air pollution on upper respiratory tract

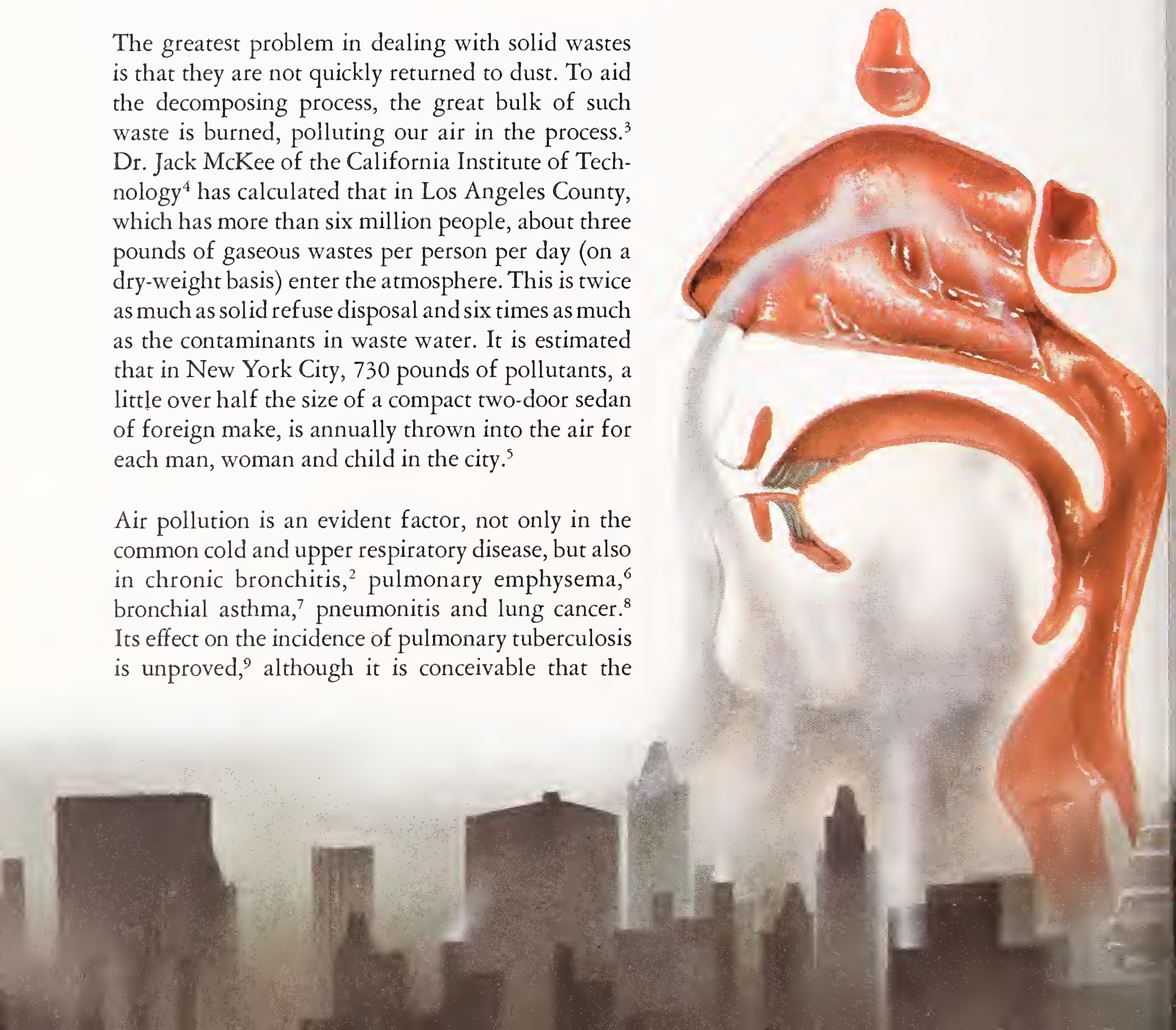
Nathan Flaxman, M.D., Diplomate, American Board of Internal Medicine, Chicago, Illinois

In Los Angeles it is *smog* (smoke and fog). In New York City *smaze* (smoke and haze). In El Paso *smust* (smoke and dust). The original factor was smoke plus such natural phenomena as fog, haze and dust, but air pollution has mushroomed from a smoke problem in our industrial cities into a major economic, esthetic and public health problem that affects practically every American locality and citizen.[1,2] Respiratory disease, of course, is by far the most costly effect of air pollution, for contaminated air can aggravate our illnesses, deplete our strength and shorten our life span.[1]

The greatest problem in dealing with solid wastes is that they are not quickly returned to dust. To aid the decomposing process, the great bulk of such waste is burned, polluting our air in the process.[3] Dr. Jack McKee of the California Institute of Technology[4] has calculated that in Los Angeles County, which has more than six million people, about three pounds of gaseous wastes per person per day (on a dry-weight basis) enter the atmosphere. This is twice as much as solid refuse disposal and six times as much as the contaminants in waste water. It is estimated that in New York City, 730 pounds of pollutants, a little over half the size of a compact two-door sedan of foreign make, is annually thrown into the air for each man, woman and child in the city.[5]

Air pollution is an evident factor, not only in the common cold and upper respiratory disease, but also in chronic bronchitis,[2] pulmonary emphysema,[6] bronchial asthma,[7] pneumonitis and lung cancer.[8] Its effect on the incidence of pulmonary tuberculosis is unproved,[9] although it is conceivable that the presence of various materials polluting the air m
do this. A siege of smog in Denver, the "mile h
city," in December 1965 was accompanied by re
ratory infection that doubled normal absentee r
in schools, factories and city government.[10]

While air pollution is only one factor, it has bec
important in the causes of most of the affliction
the respiratory tract. This has been shown not
by the Denver occurrence, but also by detailed stu
of respiratory illness in a small group of 313



rom October 1962 to May 1963 when there were 02 episodes involving the upper respiratory tract. The attack rate of illness was related in time to increased concentration of both smoke and sulphur dioxide in the atmosphere of the district in which he men lived.

Other factors often mentioned, include exposure to hose who have colds, exposure to extreme changes of temperature, allergy and bacterial infection. However, when low individual resistance due to ack of rest, overwork, fatigue, improper or unbalanced diet, previous illness and emotional stress are ncluded as causes, we enter the realm of somewhat obscure relationships. Much more emphasis can be placed on the role of polluted air.

he symptoms, signs and complications of involvement of the upper respiratory tract, especially the common cold, are the same regardless of the causa-ive factor. Swelling of the lining of the nose, the cratchy dry throat, the discharge from the nose at irst watery then thicker, discolored and more tenacious, the eyes tearing, and frequent sneezing are all part of the Number 1 human ailment. Concur-ent or residual sinusitis when mucus is trapped here, middle ear involvement due to interference with drainage, laryngitis and bronchitis are compli-ations of the common cold. The primary interference is with a most important function of the nose—he cleansing of foreign matter in the first line of “air defense” to prevent it from entering the breath-ng tract.

However, the diagnosis and subsequent decision on how to treat the patient so affected rests basically on he relief of symptoms that cause him the misery. The stuffed, runny nose, the clogged ears, and the harsh dry cough—all the symptoms that make common cold sufferers feel miserable and interfere with heir sleep—can be alleviated with medications of he oral nasal decongestant/antihistamine combina-ion type. The burning sensation in the throat, soreness of the chest and even chest pain can also be relieved by such medication. Rest in bed if there is fever (but confined to home at least), liberal fluids, uniformly warm surroundings and adequate humidity in the room, are all helpful adjuncts to the medication. Most common cold sufferers recover rapidly and are symptom-free in four to ten days.

For nature's hazards: nasal congestion due to seasonal allergies and summer colds

Triaminic® *syrup*

Each teaspoonful (5 ml.) contains:

Phenylpropanolamine hydrochloride	12.5 mg.
Pheniramine maleate	6.25 mg.
Pyrilamine maleate	6.25 mg.

For nasal congestion regardless of cause, you can bring quick, lasting comfort to your little patients with Triaminic Syrup. You may occasionally encounter these *side effects:* drowsiness, blurred vision, cardiac palpitations, flushing, dizziness, nervousness or gastrointestinal upsets. *Precautions:* the possibility of drowsiness should be considered by patients engaged in mechanical operations requiring alertness. Use with caution in patients with hypertension, heart disease, diabetes, or thyrotoxicosis.

(Advertisement)

Further treatment, altered by the fact that the affliction hangs on for more than the usual duration of the common cold, requires consideration of allergy, which is most frequently the prolonging factor. But air pollution itself may often be the culprit.

(Concluded on following page)

At the Third National Conference on Air Pollution held recently, it was emphasized that this subject had received more attention in the past four years than in all previous history. Spicer,[11] an active participant at this conference, reiterated that it behooves the practicing physician to be aware of trends in respiratory disease and to accept a major role in community action relating to air pollution and respiratory health. By taking a positive stand physicians have been instrumental in the development of antipollution legislation. An outstanding example is Los Angeles where major steps have been taken by abolishing coal burning, and even banishing oil burning, seven months a year. Natural gas must be used instead and it must be used by industry when available. Backyard incinerators have been abolished in favor of landfill disposal, and building incineration ended except for a few expensive smokeless furnaces.[10] Concerted action can be taken against particular industrial nuisances. One company that disregarded complaints discovered its error when thousands of its credit cards were returned by irate customers who decided to patronize competing companies.[12]

Summary. Respiratory disease is the most important and most costly effect of air pollution, whether termed smog, smaze, or smust. Air pollution is an economic, esthetic and public health problem that affects practically every American locality and citizen. New sources of air pollution are invisible and odorless, but the harmful gases and liquid droplets are there. Triggered by sunlight, some of these undergo mid-air chemical changes and the results are even more irritating to the upper respiratory tract. The symptoms, signs and complications, especially of the upper respiratory tract, can be readily aborted by modern medication but may be unduly prolonged by polluted air. In steps taken to prevent this, the practicing physician can take a major role.

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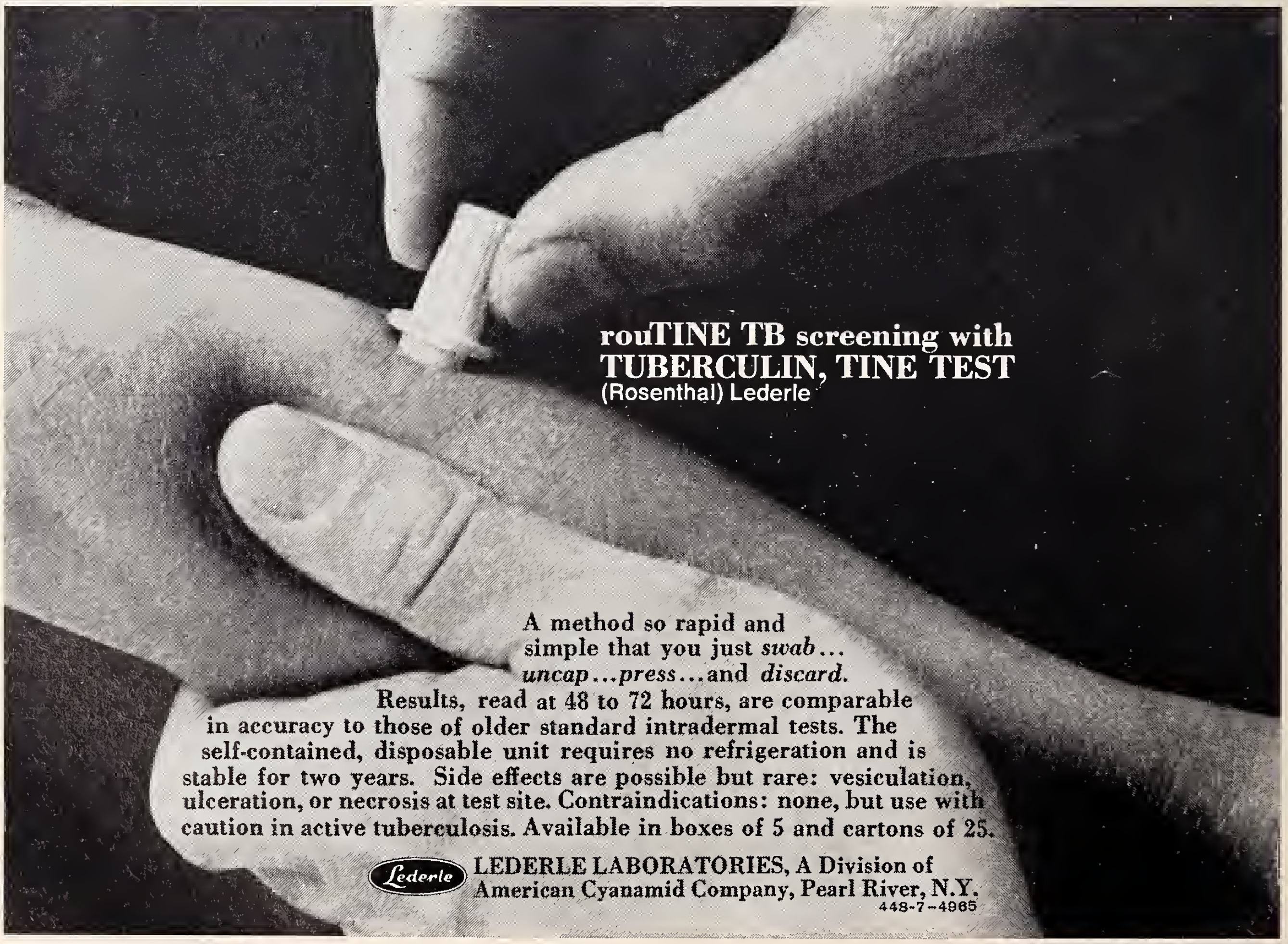

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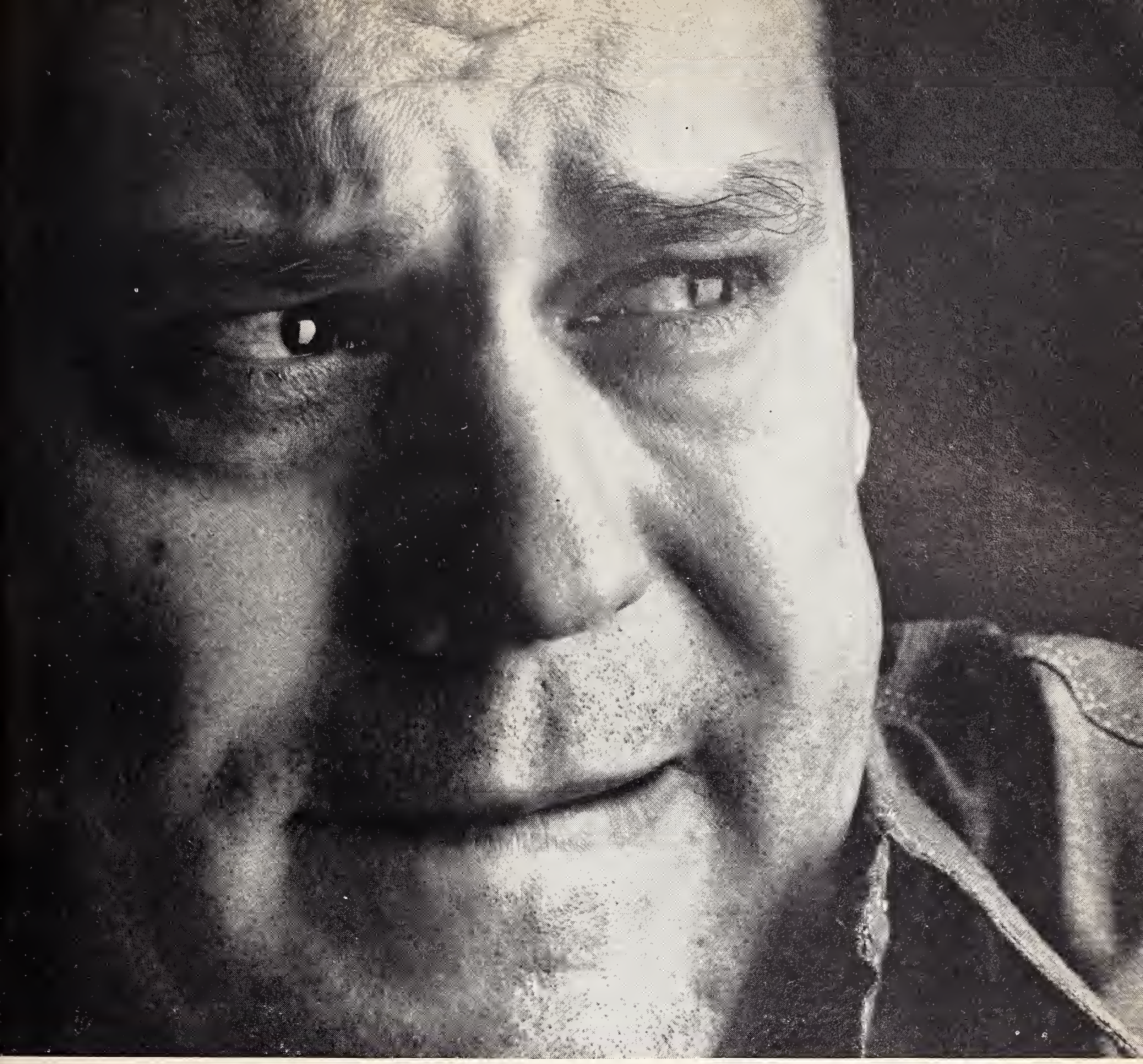

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Contraindications: Infections caused by nonsusceptible organisms; history of penicillin sensitivity.

Warnings: Acute anaphylaxis (may prove fatal unless promptly controlled) is rare but more frequent in patients with previous penicillin sensitivity, bronchial asthma or other allergies. Resuscitative (epinephrine, aminophylline, pressor amines) and supportive (antihistamines, methylprednisolone sodium succinate) drugs should be readily available. Other rare hypersensitivity reactions include nephropathy, hemolytic anemia, leucopenia and thrombocytopenia. In suspected hypersensitivity, evaluation of renal and hematopoietic systems is recommended.

Precautions: In suspected staphylococcal infections, perform proper laboratory studies including sensitivity tests. If overgrowth of nonsusceptible organisms occurs (constant observation is essential), discontinue penicillin and take appropriate measures. Whenever allergic reactions occur, withdraw penicillin unless condition being treated is considered life threatening and amenable only to penicillin. Penicillin may delay or prevent appearance of primary syphilitic lesions. Gonorrhea patients suspected of concurrent syphilis should be tested serologically for at least 3 months. When lesions of primary syphilis are suspected, dark-field examination should precede use of penicillin. Treat beta-hemolytic streptococcal infections with full therapeutic dosage for at least 10 days to prevent rheumatic fever or glomerulonephritis. In staphylococcal infections, perform surgery as indicated.

Adverse Reactions (Penicillin has significant index of sensitization): Skin rashes, ranging from maculopapular eruptions to exfoliative dermatitis; urticaria; serum sickness-like reactions, including chills, fever, edema, arthralgia and prostration. Severe and often fatal anaphylaxis has been reported (see "Warnings").

Composition: Tablets—125 mg. (200,000 units), 250 mg. (400,000 units), 500 mg. (800,000 units); Liquid—125 mg. (200,000 units) and 250 mg. (400,000 units) per 5 cc.

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Cydril at 2 p.m.
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Side Effects: Occasionally cardiovascular and gastrointestinal reactions may produce dry mouth, metallic taste, anorexia, nausea, diarrhea, headache, chilliness, pallor or flushing, sweating, diuresis, and arrhythmias.

Contraindications: Cydril (levamfetamine succinate) should not be used in the presence of severe hypertension, angina pectoris, hyperthyroidism, and Raynaud's disease.

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Each tablet contains:

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Dispensed in bottles of 100 and 1000 tablets.

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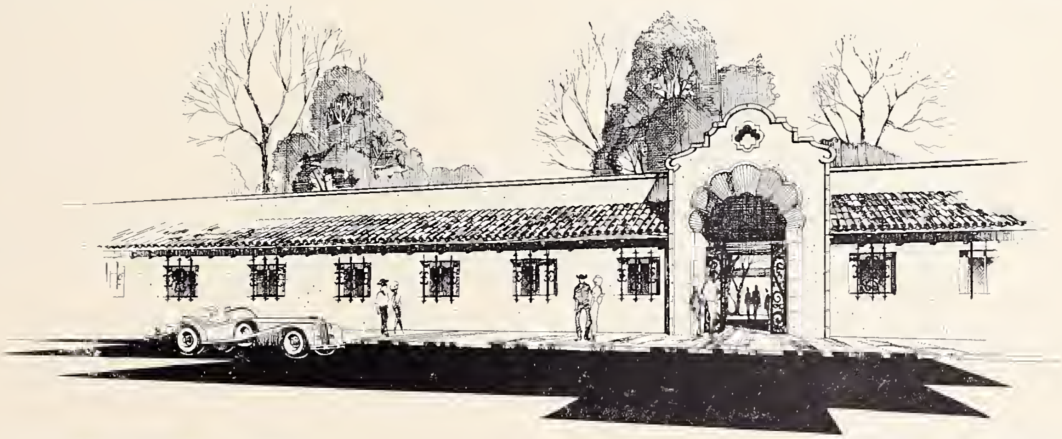

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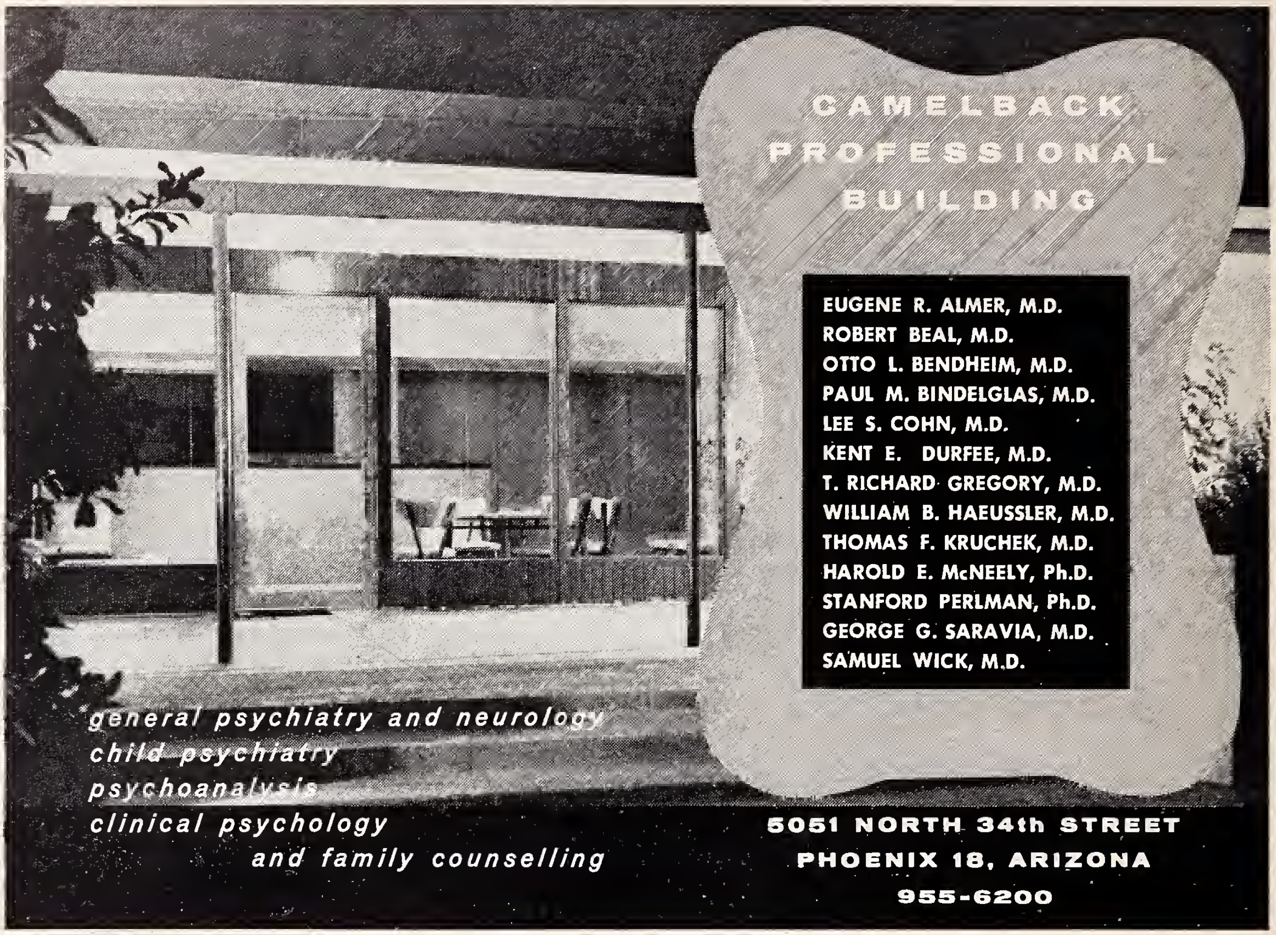

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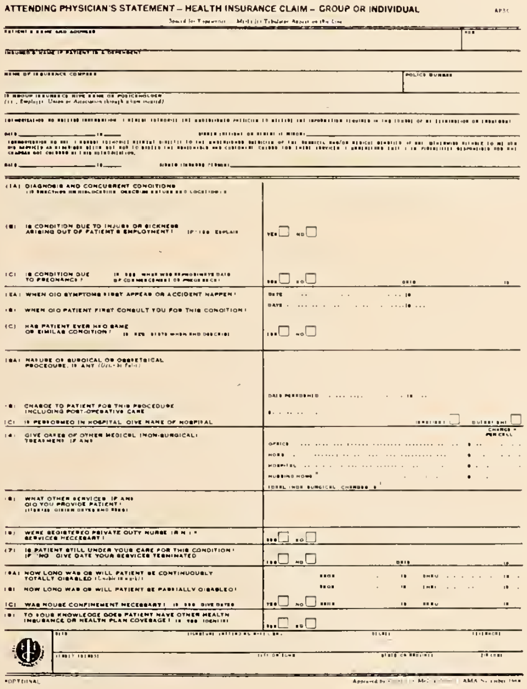

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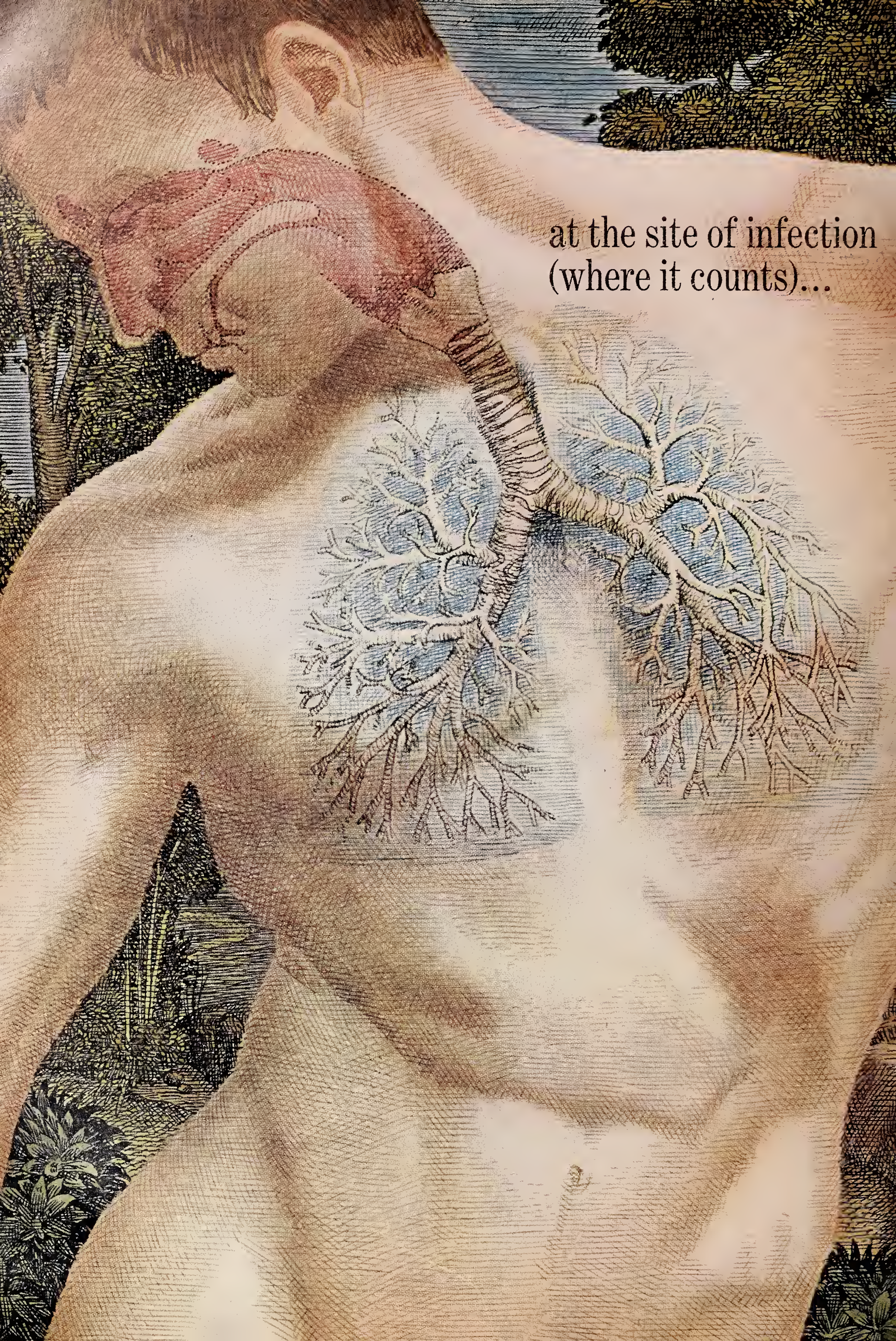
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Ilosone has shown no cross-resistance with penicillin and may be effective against organisms that have become resistant to that agent. Despite its high antibacterial activity, Ilosone has demonstrated a low incidence of side reactions. Blood dyscrasias, ototoxicity, and tooth staining have not been observed. Infrequent cases of drug idiosyncrasy, manifested by a cholestatic jaundice, have occurred, but there have been no known definite residual effects.

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Indications: Ilosone is indicated in infections caused by microorganisms sensitive to its action (especially staphylococci, hemolytic streptococci, and pneumococci). The drug is therefore useful in a high proportion of bacterial diseases encountered in clinical practice and particularly in the treatment of bacterial infections of the upper and lower respiratory tract and soft tissues.

In the treatment of acute bacterial pharyngitis and tonsillitis, this antibiotic has promptly eradicated the bacteria (streptococci) and has produced a parallel prompt clinical improvement. There have been no group A beta-hemolytic streptococci resistant to this preparation. In beta-hemolytic streptococcus infections, treatment should be maintained for ten days to prevent the development of rheumatic fever or glomerulonephritis.

Erythromycin estolate has proved to be very effective in pneumococcus pneumonia and in acute bronchitis with pneumococci on culture. Bronchopneumonia and otitis media in children have responded well to its use.

The antibiotic has been used very successfully in staphylococcus infections. Good therapeutic results have been obtained in soft-tissue infections, abscesses, cellulitis, carbuncles, wound infections, and furunculosis.

In serious staphylococcus infections, erythromycin preparations should be used only in combination therapy with other antimicrobial agents. As is the case with any treatment regimen used in these severe conditions, surgical procedures should be performed when indicated, and large dosages of the antimicrobial agents should be employed. In this fashion, Ilosone has been effective in staphylococcus pneumonia, osteomyelitis, septicemia, empyema, and meningitis.

Multiple 500-mg. doses of the drug have also been useful in gonorrhea and syphilis. Since penicillin is the drug of choice for the treatment of syphilis and gonorrhea, erythromycin estolate should be employed for these infections only in patients with a history of penicillin allergy. Also, other infections due to susceptible bacteria in patients known to be hypersensitive to penicillin or other antibiotics may be considered for treatment with Ilosone.

Contraindications: Ilosone is contraindicated in patients with a known history of sensitivity to this drug and in those with preexisting liver disease or dysfunction.

Adverse Reactions: Data obtained from seven years' use of propionyl erythromycin ester and erythromycin estolate (Ilosone) indicate that hepatic dysfunction with or without clinical jaundice may occur during or following courses of therapy with the drug.

Changes in liver function tests in such cases have been indicative of intrahepatic cholestasis. The symptoms appear to be the result of a form of sensitization. The initial symptoms have developed in some cases after a few days of treatment but generally have followed one or two weeks of continuous therapy or several courses of the drug. Symptoms reappear promptly, usually within forty-eight hours, if the drug is readministered to sensitive patients. Eosinophilia was noted in peripheral blood counts. The findings readily subsided without apparent residual effects when treatment was discontinued. Recovery was delayed in one reported instance. The physician indicated in this case that either drug-induced jaundice or viral hepatitis may have been responsible for the findings.

In one clinical study involving ninety-three patients treated with the antibiotic, three cases of jaundice were observed and an additional eleven cases developed some changes in liver function tests. Three of the patients had abnormal liver function tests a second time on readministration of the drug.

Even though it is assumed that not all cases of jaundice have been reported, it seems clear that the number is small compared with the amount of drug that has been used. Reported cases have included persons in whom there had been administered other drugs known to be associated at times with hepatic side-effects and cases in which the presence of viral hepatitis or other disease may have been responsible for the findings. In some of the cases, associated gastro-intestinal symptoms simulated the colic of biliary tract disease. In other instances, clinical symptoms and results of liver function tests resembled findings in extrahepatic obstructive jaundice. It appears that the occurrence of jaundice after administration of Ilosone is infrequent, but further investigations are being made to estimate its incidence more accurately.

In those cases mentioned above in which jaundice appear
be definitely related to use of the drug, laboratory findings
characterized by increased direct-reacting bilirubin, elev
alkaline phosphatase levels, negative or weakly positive cep
flocculation and thymol turbidity tests, elevated serum glut
oxalacetic transaminase levels, peripheral eosinophilia, and
mal cholecystograms.

Individual idiosyncrasy seems evident since jaundice ha
been reported in other patients taking prolonged courses o
medication. Patients with chronic infection have been given
to 2 Gm. of the drug daily for periods of two to six months,
patients with rheumatic fever have taken prophylactic dos
0.5 Gm. daily for two years without difficulty. In one grou
144 patients who received the drug daily for two years, no j
dice was noted. It was of interest that members of six of t
patients' families, who were not taking the drug, had epis
of jaundice during the study period.

Transaminase and serum alkaline phosphatase levels
determined in a group of fifty-four adults and children who
250 mg. of Ilosone daily for an average of sixteen month
rheumatic fever prophylaxis. The results were compared
those of a similar group of forty-four patients who received
icillin. There were no cases of jaundice in either group. Eleva
of SGPT and serum alkaline phosphatase levels during the co
of treatment was observed in one patient treated with Ilo
and in two patients treated with penicillin. Seven other pati
in the group receiving Ilosone and four others in the penic
group showed elevations in one of the tests at some time du
administration of the drugs.

Very satisfactory therapeutic results, without toxicity,
reported in 102 pediatric patients who received short-term (
day) courses of Ilosone in the treatment of streptococcus in
tions. Results of liver function tests in these patients w
comparable to those in a similar control group who had recei
penicillin.

Gastro-intestinal disturbances not associated with hepatic
fects are observed in a small proportion of individuals as a re
of a local stimulating effect of the medication on the aliment
tract; however, the normal intestinal gram-negative bacte
flora is not appreciably altered by erythromycin drugs.

Although allergic manifestations are uncommon with the
of erythromycin, there have been occasional reports of urtica
skin eruptions, and, on rare occasions, anaphylaxis.

Administration and Dosage: Ilosone is administered orally.

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(Tablets Ilosone Chewable should be chewed or crushed
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For adults and for children over fifty pounds, the usual do
of Ilosone is 250 mg. every six hours.

For severe infections, these dosages may be doubled.

When larger doses are indicated, parenteral erythrom
therapy should be considered.

In the treatment of syphilis, the recommended total dosag
20 to 30 Gm. given in divided doses for a period of ten to fif
days. Close follow-up of the patient is necessary since eryt
mycin drugs have not had adequate evaluation in all stage
syphilis. Examinations of spinal fluid are recommended as
of the follow-up therapy.

For gonorrhea, 500 mg. four times a day for four days
recommended. In the treatment of gonorrhea, patients wit
suspected lesion of syphilis should have a dark-field examina
before receiving antibiotics, and monthly serologic tests sho
be made for a period of three months.

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References: 1. Griffith, R. S., and Black, H. R.: Am. J. M. Sc., *247*:69, 1
2. Griffith, R. S., and Black, H. R.: Antibiotics & Chemother., *12*:398, 1
3. Hirsch. H. A., Pryles, C. V., and Finland, M.: Am. J. M. Sc., *239*:198, 1960.

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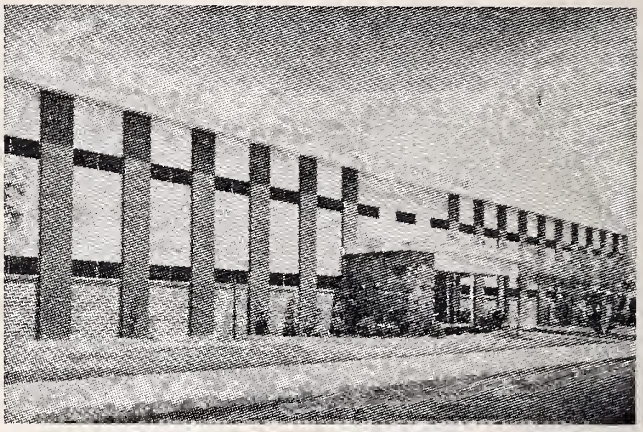

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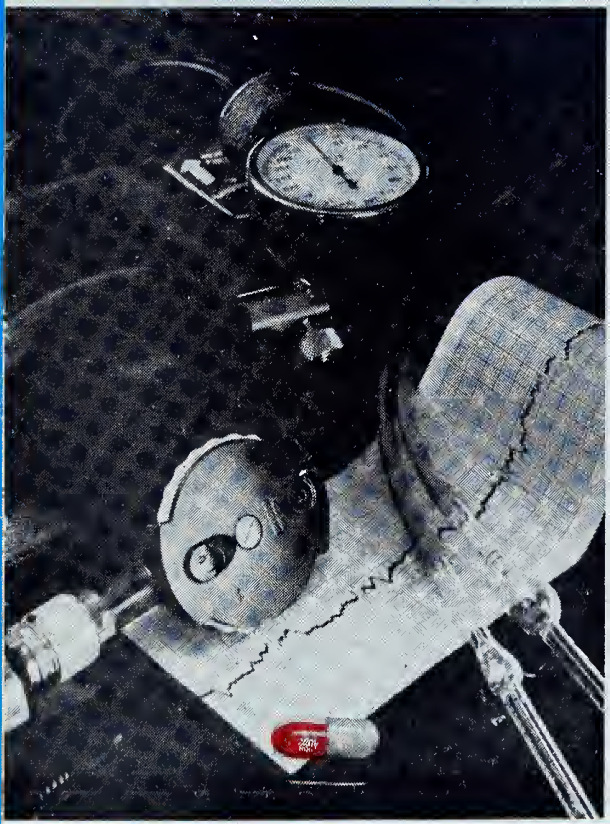

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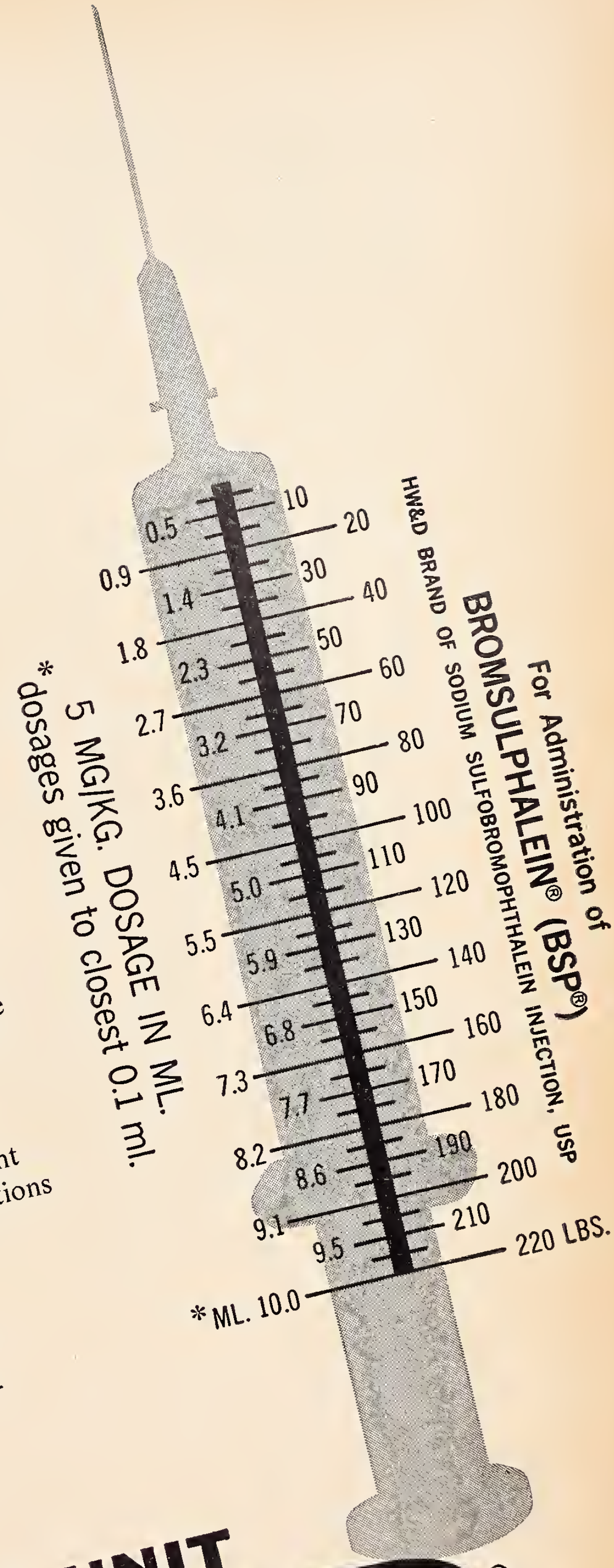

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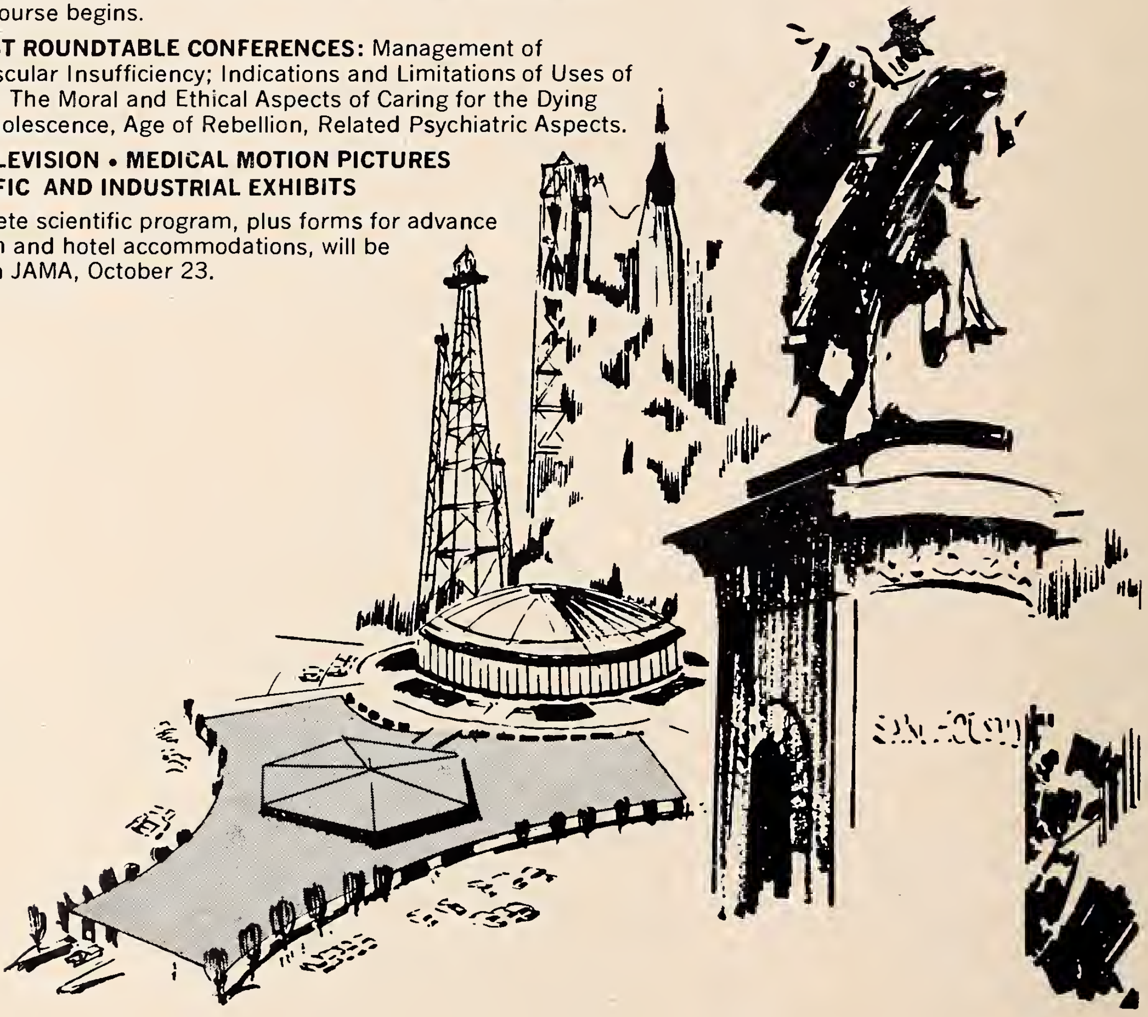
The complete scientific program, plus forms for advance registration and hotel accommodations, will be featured in JAMA, October 23.



Arizona Medicine

JOURNAL OF ARIZONA MEDICAL ASSOCIATION
MEDICAL SOCIETY OF THE UNITED STATES AND MEXICO

October 1967
Vol. 24, No. 10

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when bursitis hits a 280-lb. tackle, hit back with Butazolidin alka

Indications: Osteoarthritis, rheumatoid arthritis, rheumatoid spondylitis, psoriatic arthritis, acute gout, painful shoulder (peritendinitis, capsulitis, bursitis and acute arthritis of that joint), acute superficial thrombophlebitis.

Contraindications: Edema; danger of cardiac decompensation; history or symptoms of peptic ulcer; renal, hepatic or cardiac damage; history of drug allergy; history of blood dyscrasia. The drug should not be given when the patient is senile or when other potent drugs are given concurrently. Large doses of Butazolidin alka are contraindicated in glaucoma.

Warning: If coumarin-type anticoagulants are given simultaneously, watch for excessive increase in prothrombin time. Instances of severe bleeding have occurred. Pyrazole compounds may potentiate the pharmacologic action of sulfonylurea, sulfonamide-type agents and insulin. Carefully observe patients receiving such therapy. Use with great caution in the first trimester of pregnancy.

Precautions: Before prescribing, carefully select patients, av
those responsive to routine measures as well as contraindicate
tients. Obtain a detailed history and a complete physical and labo
examination, including a blood count. The patient should not e
recommended dosage, should be closely supervised and shou
warned to discontinue the drug and report immediately if fever
throat, or mouth lesions (symptoms of blood dyscrasia); sudden v
gain (water retention); skin reactions; black or tarry stools or
evidence of intestinal hemorrhage occur. Make regular blood c
Discontinue the drug immediately and institute countermeasures
white count changes significantly, granulocytes decrease, or imm
forms appear. Use greater care in the elderly and in hyperten

Adverse Reactions: The most common are nausea, edema and
rash. Swelling of the ankles or face may be minimized by withh
dietary salt, reduction in dosage or use of diuretics. In elderly pa
and in those with hypertension the drug should be discontinued
the appearance of edema. The drug has been associated with pep

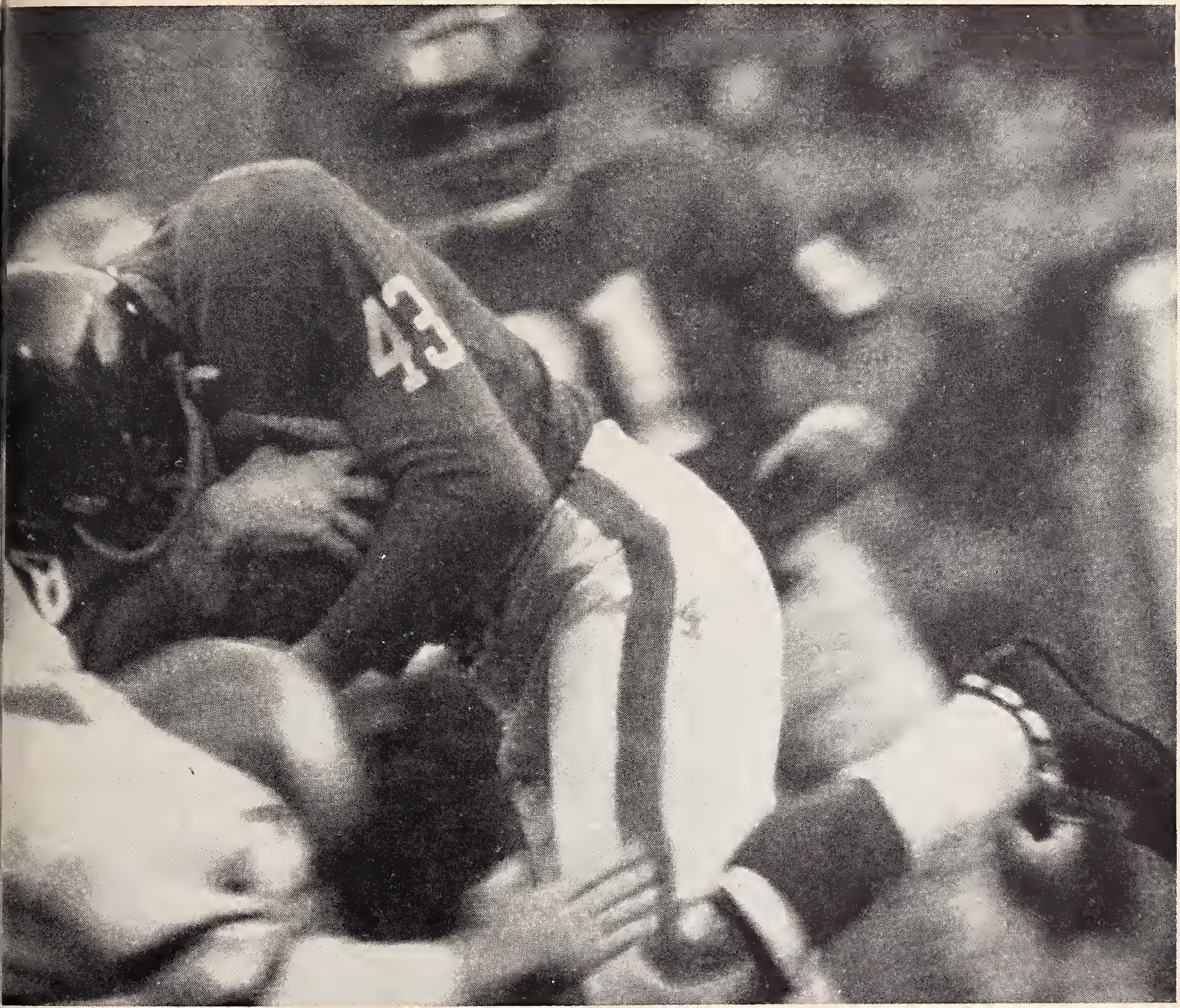
280-lb. tackles—or 108-lb. housewives—Butazolidin alka can hasten recovery from the nizing pain of shoulder bursitis.

iot for every patient. Check carefully the Contraindications, Warning and cautions shown below.

adverse reactions may occur. The most common are nausea, edema and rash. ely, agranulocytosis has been reported. All adverse reactions are listed below, too.

/-for-pay or workaday patients—when they come up with shoulder bursitis and your ical judgment indicates Butazolidin alka—go with it.

watch the comeback.



nd may reactivate a latent peptic ulcer. The patient should be in- ted to take doses immediately before or after meals or with to minimize gastric upset. Mild drug rashes frequently subside reduction of dosage. However, rash accompanied by fever or systemic reactions usually requires withholding medication. uric rash has also been reported. Agranulocytosis, exfoliative atitis, Stevens-Johnson syndrome, or a generalized allergic re- n similar to serum sickness may occur and require permanent drawal of medication. Stomatitis, salivary gland enlargement, ting, vertigo and languor may occur. Leukemia and leukemoid tions have been reported. While not definitely attributable to the , a causal relationship cannot be excluded. Thrombocytopenic ura and aplastic anemia may occur. Confusional states, agitation, ache, blurred vision, optic neuritis and transient hearing loss have reported, as have hyperglycemia, hepatitis, jaundice, and several s of anuria and hematuria. With long-term use, reversible thyroid rplasia may occur infrequently. Moderate lowering of the red cell t due to hemodilution may occur. 6509-V(B)R2

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Capsules

100 mg.	phenylbutazone
100 mg.	dried aluminum hydroxide gel
150 mg.	magnesium trisilicate
1.25 mg.	homatropine methylbromide

Dosage in painful shoulder: Initial: 3 to 6 capsules daily in 3 or 4 equal doses. Trial period: 1 week. Maintenance dosage should not exceed 4 capsules daily; response is often achieved with 1 or 2 capsules daily.

For complete details, please see full prescribing information.

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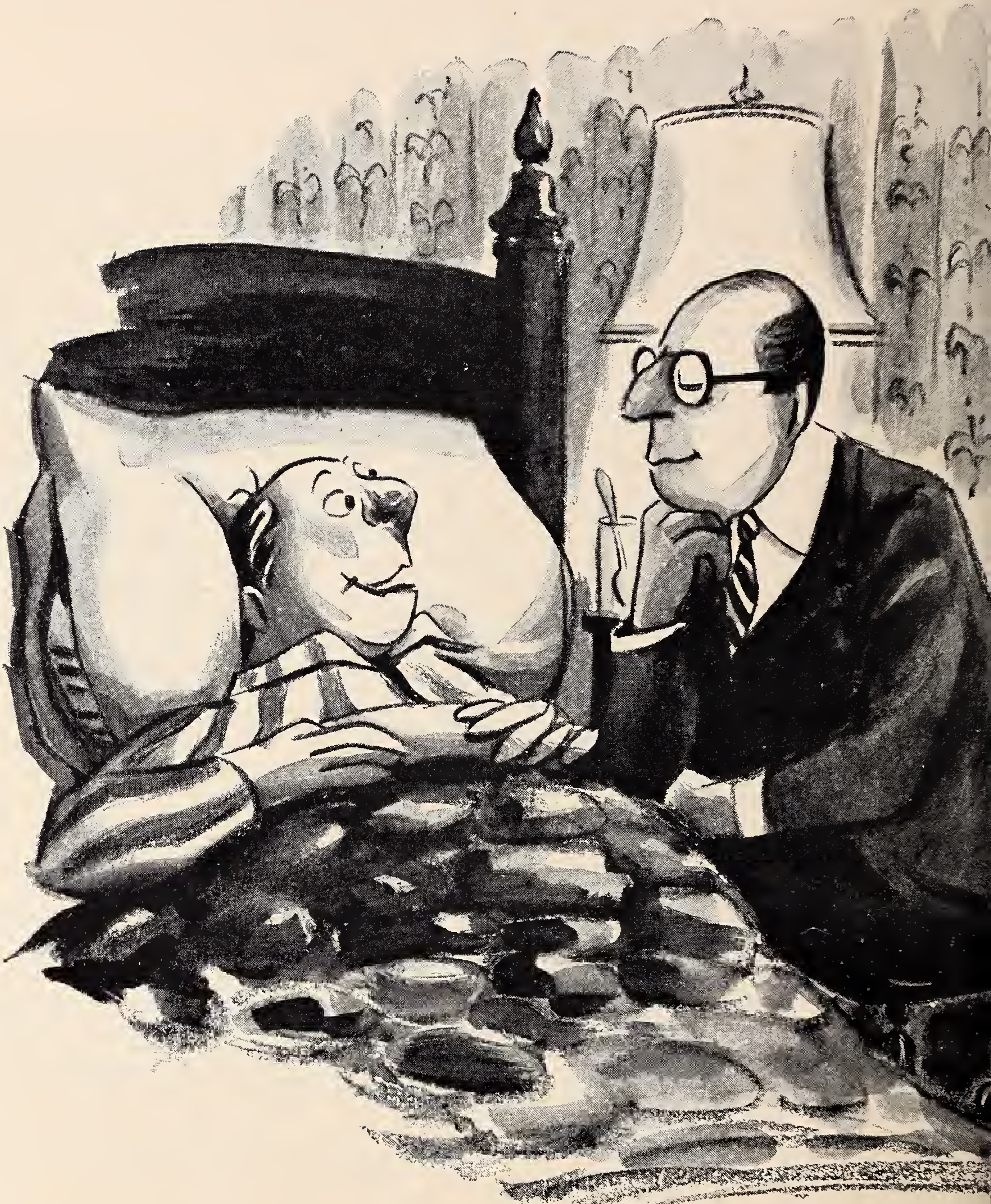

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Maybe he doesn't know when he's well off. But you might want to prescribe long-acting Novahistine LP anyway.

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Vitamin B_1 (as Thiamine Mononitrate)	10 mg
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Vitamin C (Ascorbic Acid)	300 mg
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ANNUAL MEETING

Following are the official registration figures of Annual Meetings for M.D. members of ArMA;

1959	Chandler	331
1960	Scottsdale	414
1961	Scottsdale	419
1962	Scottsdale	469
1963	Tucson	315
1964	Chandler	238
1965	Tucson	321
1966	Scottsdale	295
1967	Scottsdale	284

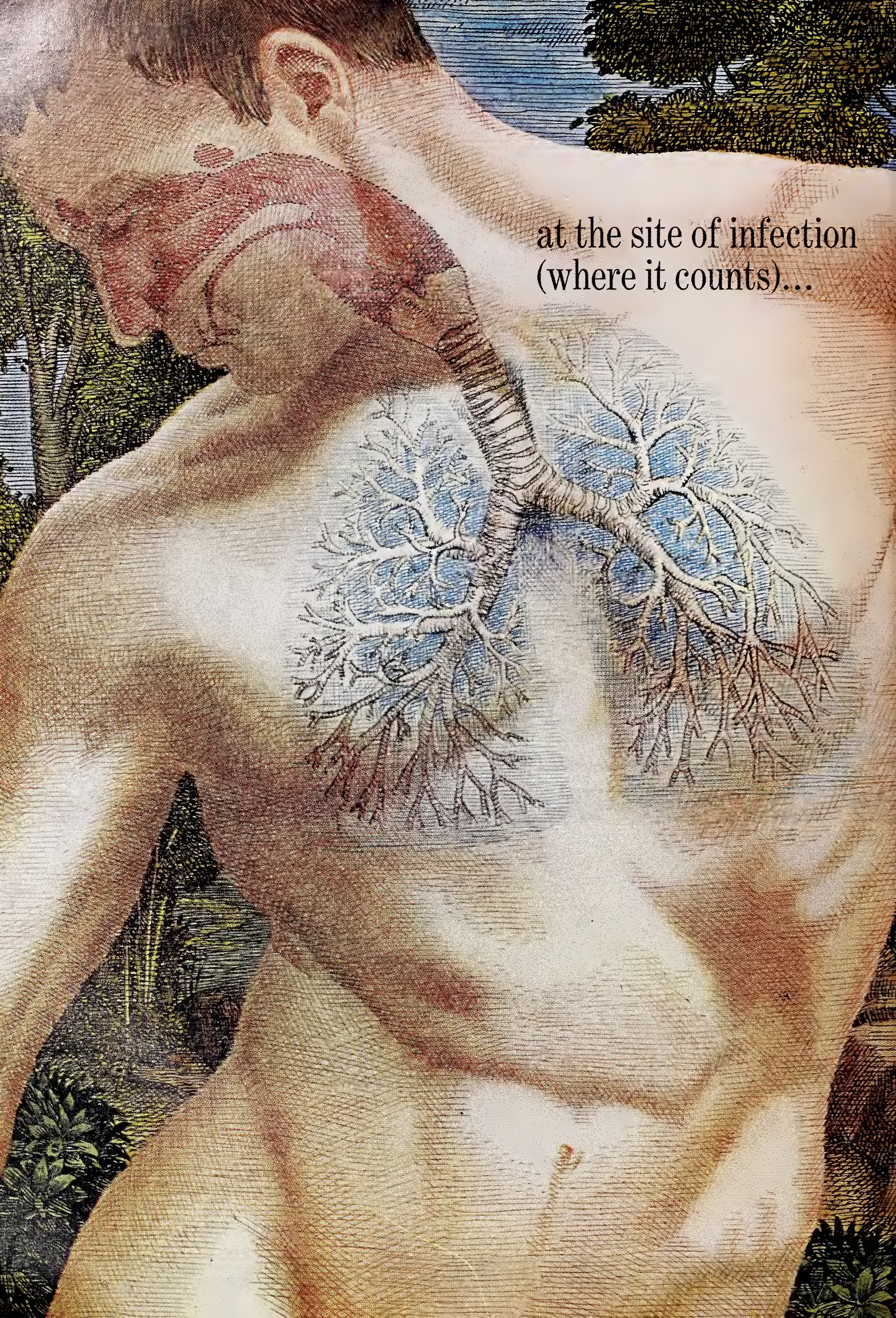
ARIZONA MEDICINE published with interest the minutes of the last Scientific Assembly Committee meeting in the August 1967 issue. It was intrigued by the proposed format of the meeting, lengthening the annual meeting to five days; the suggested LEADING entertainment following the President's banquet in lieu of a guest speaker; a recommended registration fee not to exceed $10.00 per member; and a recommendation that a uniformed guard be employed and stationed at the entrance to the exhibit hall and meeting rooms and that he be instructed to deny admission to any person not wearing a registration badge provided by ArMA.

We have certainly come full circle since 1960-'61-'62! Could it be that we have become so concerned with our public image that we are unable to unbend and have a little fun? Has this business of Medicine become so profound that it is no longer politic to be counted in certain groups and must one edit his very conversation for fear that Big Brother may be listening? And who could possibly refuse a $25.00 registration fee, which, after all, is paid by check, receipted, and which is completely deductible?

Ridiculous as it might seem, ARIZONA MEDICINE would offer only the following suggestion:

BE A SPORT, DOCTOR! LIVE A LITTLE!

Roland F. Schoen, M.D.
Editor


at the site of infection
(where it counts)...

Ilosone® provides more antibacterial activity than any other oral erythromycin

Acid stable, better absorbed... Ilosone produces faster, higher, more prolonged blood levels, even in the presence of food[1-3]

Because it is the most active form of oral erythromycin, Ilosone can help assure consistently greater antibacterial activity at the site of infection. Ilosone produces peak antibacterial blood levels two to four times those of other erythromycin preparations.[1,2] Not only are these levels attained earlier, but they are maintained for much longer periods. Even the presence of food does not seem to affect the activity of Ilosone.[1,3]

In the treatment of patients with bacterial infections susceptible to erythromycin, Ilosone has compiled an excellent therapeutic record. Since it exerts its greatest activity against gram-positive organisms, it is particularly useful in common respiratory and soft-tissue bacterial infections. Ilosone kills—not merely inhibits—streptococci, pneumococci, and more strains of staphylococci than any other macrolide antibiotic. This bactericidal action, coupled with the high antibacterial levels attained, makes Ilosone especially valuable in patients with low host resistance, such as infants, debilitated individuals, and diabetics.

Ilosone has shown no cross-resistance with penicillin and may be effective against organisms that have become resistant to that agent. Despite its high antibacterial activity, Ilosone has demonstrated a low incidence of side reactions. Blood dyscrasias, ototoxicity, and tooth staining have not been observed. Infrequent cases of drug idiosyncrasy, manifested by a cholestatic jaundice, have occurred, but there have been no known definite residual effects.

Now available:
New! Ready-mixed Ilosone Liquid 125! (Contains erythromycin estolate equivalent to 125 mg. erythromycin base per 5-cc. teaspoonful.)

Ilosone®
Erythromycin Estolate

Lilly

(See next page for prescribing information.)

Ilosone®/the most active oral form of erythromycin

Description: Ilosone is the most active form of oral erythromycin that has been developed. Because it is stable in acid, well absorbed, and excreted in lesser amounts in the bile, it provides faster, higher, and longer-lasting levels of antibacterial activity (ABA) in the serum, even when taken with food, than do comparable doses of erythromycin.

Indications: Ilosone is indicated in infections caused by micro-organisms sensitive to its action—especially staphylococci, hemolytic streptococci, and pneumococci.

It has been effective in streptococcus infections, particularly acute bacterial pharyngitis and tonsillitis; staphylococcus disease, including soft-tissue infections, furunculosis, abscesses, cellulitis, carbuncles, and wound infections; pneumococcus pneumonia and acute bronchitis with pneumococci on culture, bronchopneumonia, and otitis media.

In serious staphylococcus infections, erythromycin preparations should be used only in combination therapy with other antimicrobial agents; surgical procedures should be performed when indicated, and large doses of the antimicrobial agents should be employed.

Penicillin is the drug of choice for syphilis and gonorrhea, but Ilosone in multiple 500-mg. doses has been useful in patients with a history of penicillin allergy. Also, other infections due to susceptible bacteria in patients hypersensitive to penicillin or other antibiotics may be considered for treatment with Ilosone.

Contraindications: Known history of sensitivity to this drug; preexisting liver disease or dysfunction.

Adverse Reactions: Hepatic dysfunction with or without clinical jaundice has been reported infrequently. Changes in liver function tests indicative of intrahepatic cholestasis appear to be the result of individual idiosyncrasy. Findings subsided when treatment was discontinued. Occasionally, symptoms simulated extrahepatic obstructive jaundice or the colic of biliary tract disease.

When jaundice appeared to be related to use of the drug, laboratory findings were characterized by increased direct-reacting bilirubin, elevated alkaline phosphatase levels, negative or weakly positive cephalin flocculation and thymol turbidity tests, elevated serum glutamic oxalacetic transaminase levels, peripheral eosinophilia, and normal cholecystograms.

Gastro-intestinal disturbances not associated with hepatic effects and occasional allergic manifestations (urticaria, skin eruptions, and, rarely, anaphylaxis) have been reported. The normal intestinal gram-negative bacterial flora is not appreciably altered by erythromycin drugs.

Administration and Dosage: Ilosone is administered orally.

Infants and children under twenty-five pounds, 5 mg. per pound every six hours; twenty-five to fifty pounds, 125 mg. every six hours. Adults and children over fifty pounds, 250 mg. every six hours.

For severe infections, double the dosage. When larger doses are indicated, consider parenteral erythromycin therapy. In beta-hemolytic streptococcus infections, maintain treatment for ten days to prevent rheumatic fever or glomerulonephritis.

In syphilis, a total of 20 to 30 Gm. is administered in divided doses for ten to fifteen days. Close follow-up is necessary since erythromycin drugs have not had adequate evaluation in all stages of syphilis. Examination of spinal fluid is recommended during follow-up.

In gonorrhea, the dosage is 500 mg. four times a day for four days. Patients with a suspected lesion of syphilis should have a dark-field examination before receiving antibiotics and monthly serologic tests for three months. For detailed information, consult the package literature.

How Supplied: Pulvules® Ilosone, Capsules, N.F., 125 mg.* and 250 mg.*
Ilosone Liquid 125, Oral Suspension, U.S.P., 125 mg.* per 5-cc. teaspoonful.
Ilosone, 125, for Oral Suspension, N.F., 125 mg.* per 5-cc. teaspoonful.
Ilosone Drops, 5 mg.* per drop.
Tablets Ilosone Chewable, N.F., 125 mg.*

*Base equivalent. [080967]

References: 1. Griffith, R. S., and Black, H. R.: Am. J. M. Sc., *247*:69, 1964. 2. Griffith, R. S., and Black, H. R.: Antibiotics & Chemother., *12*:398, 1962. 3. Hirsch, H. A., Pryles, C. V., and Finland, M.: Am. J. M. Sc., *239*:198, 1960.

Additional information available to physicians upon request. Eli Lilly and Company, Indianapolis, Indiana 46206.

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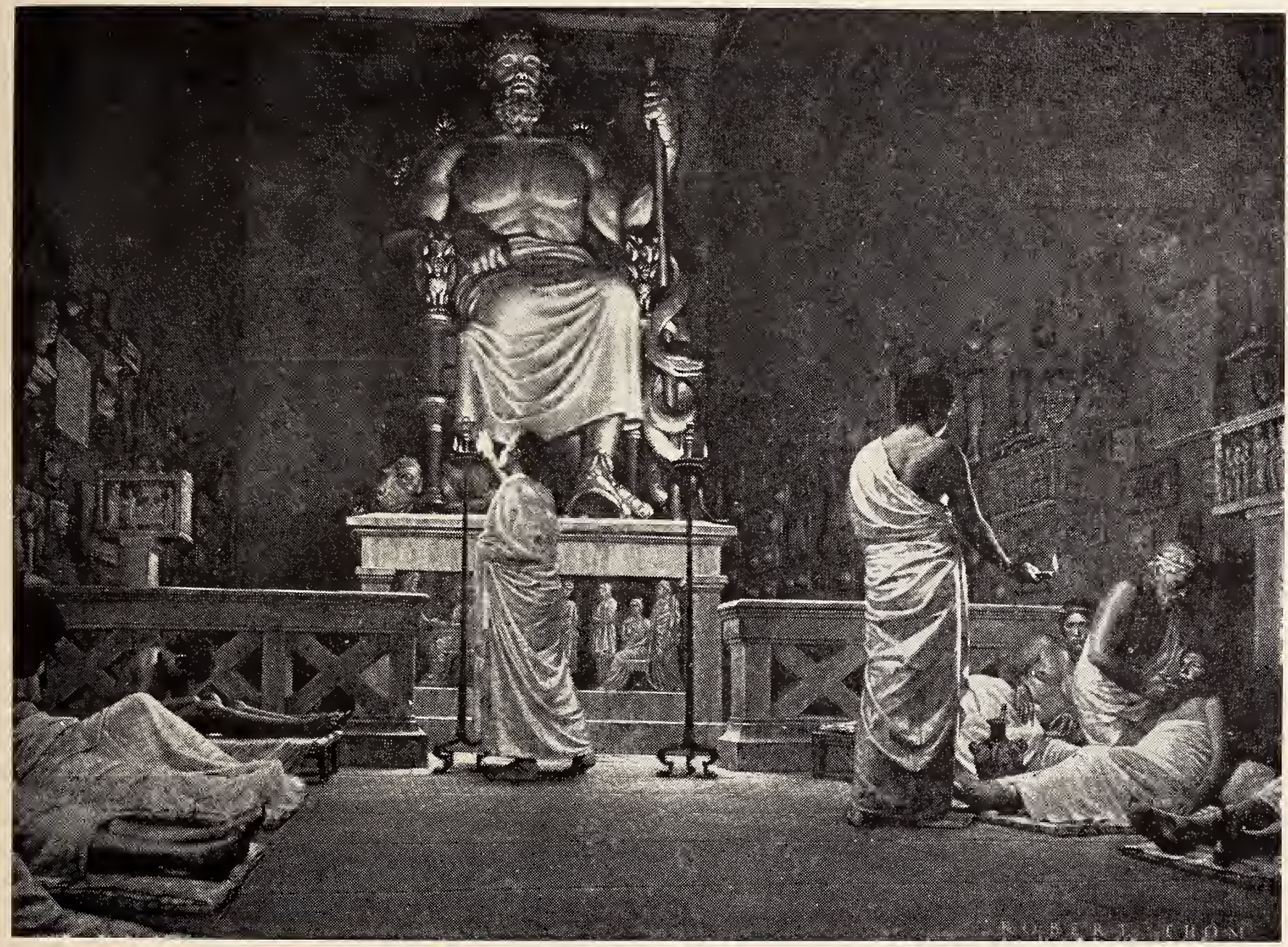

THE GOD AESCULAPIUS

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PLEASE ACCEPT MY APPLICATION FOR ENTRY IN THE AESCULAPIUS AWARD PROGRAM BEING HELD AS PART OF THE 77TH ANNUAL MEETING OF THE ARIZONA MEDICAL ASSOCIATION, APRIL 23-27, 1968.

I PROPOSE TO EXHIBIT: ....

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I understand that further information may be requested on the acceptance of this application.

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(Society Address: 2555 East Adams Street, Tucson)

PINAL: William J. Clemans III, President, 1616 Main Street, Florence; Robert L. Hyde, M.D., Secretary, 1616 Main Street, Florence.

SANTA CRUZ: Delmar R. Mock, M.D., President, 309-11 Duquesne Avenue, Patagonia; Charles S. Smith, M.D., Secretary, Gebler Building, Nogales.

YAVAPAI: E. Charles Bill, M.D., President, Marcus J. Lawrence Hospital, Cottonwood: William R. Shepard, M.D., Secretary, 1003 Division Street, Prescott.

YUMA: Harold N. Gordon, M.D., President. 1832 8th Avenue, Yuma; Chauncey D. Buster, M.D., Secretary, 2540 4th Avenue, Yuma.

WOMAN'S AUXILIARY TO THE ARIZONA MEDICAL ASSOCIATION – 1967-68

President .... Mrs. Elvie B. Jolley (Mila)
Box 919, Bisbee, Arizona

President-Elect .... Mrs. Richard P. Timmons (Evelyn)
5302 N. 69th Place, Scottsdale, Arizona

1st Vice President .... Mrs. William H. Lyle (Jill)
2601 Walking Horse Lane, Yuma, Arizona

2nd Vice President .... Mrs. Robert J. Oliver (Nicki)
910 N. Wilmot Road, Tucson, Arizona

Secretary .... Mrs. Frederick W. Jensen, Jr. (Alice)
310 East McLellan Road, Phoenix, Arizona

Treasurer .... Mrs. James L. Parsons (Carolyn)
5251 E. Hawthorne Place, Tucson, Arizona

EXECUTIVE COMMITTEE

Meeting of the Executive Committee of the Board of Directors of The Arizona Medical Association, Inc., held Saturday, July 8, 1967, in the Central Office of the Association, Suite 201, Safari Building, 4601 North Scottsdale Road, Scottsdale, Arizona, convened at 3:45 p.m., Arnold H. Dysterheft, M.D., President and Chairman, presiding.

ROLL CALL

PRESENT. Drs. Dudley, Jr., Arthur V., President-Elect; Dysterheft, Arnold H., President and Chairman; Flynn, Richard O., Vice President; Heileman, John P., Secretary. Staff — Messrs, Carpenter, Robert, Executive Secretary, ArMA; Robinson, Bruce E., Assistant Executive Secretary, ArMA; Boykin, Paul R., Executive Secretary, BOMEX.

EXCUSED: Dr. Landeen, Fred H., Treasurer.

BOARD OF DIRECTORS — AGENDA

Reviewed the Board of Directors Agenda for meeting scheduled to be held tomorrow, July 9, 1967.

ArMA House of Delegates

Resolution No. 11 — Free Choice of Physician — Maternal and Child Health Care Programs.

Congressman John J. Rhodes reports that neither the Federal statutes nor regulations specify the qualifications of doctors who may participate in this program (Title V, Part 1, of the Social Security Act for the administration of grant-in-aid funds for Maternal and Child Health). The States employ standards that are pertinent to the objectives of the program and which it is believed will carry out most effectively the services to be provided. Suggestion is made that any additional comments should be brought to the attention of the Arizona Health Department.

Joseph C. Pinto, M.D., Director, Yuma County Health Department, criticizes the content of Resolution No. 11, adopted by the ArMA House.

Dr. Dysterheft reports a meeting with Dr. Pinto has been scheduled for next week with the hope of an amicable discussion of the intent and purpose of the resolution.

Resolution No. 14 — Nursing Education:

Rosamond C. Gabrielson, R.N., President, Arizona State Nurses' Association; Loretta Hanner, Dean, ASU College of Nursing; and Beatrice Evans, Director, NAU Nursing Program, each by letter, criticized the content and implications contained in this resolution as relates ArMA's position on nursing education. Following review, it was agreed there should be educational programs for the licensed practical nurse, and for the registered nurse: diploma schools, associate and baccalaureate degrees.

A letter directed to the Editor-in-Chief of **Arizona Medicine** for publication, presented by Miss Gabrielson as President of ASNA, was reviewed. It was suggested that it be published for the enlightenment of the ArMA members with a suitable editorial to follow.

Resolution No. 18 — Driver Pre-consent for Blood Alcohol Testing

Police Chief Paul E. Blubaum (Phoenix) expressed the view he cannot support ArMA's position in this matter. Implied Consent laws have been enacted in several states which have been ineffective, in his opinion, in dealing with the drunk-driving problem. Chemical testing was introduced in Phoenix, since discontinued.

AMA in recent Annual Meeting encouraged state medical societies to take appropriate action to insure that each driver, upon receiving a license to drive, agrees to submit to chemical tests for alcohol upon the request of a law enforcement officer.

AMA House of Delegates

Reviewed actions recently taken by the AMA House of Delegates in Annual Meeting in Atlantic City relating to: (a) Resolution No. 41 (introduced by ArMA Board of Directors) referable to Physicians on Hospital Boards of Directors; Resolution No. 110 (ArMA House No. 15), Third Party Payment for Medicare Indigent Patients Under Part B; Resolution No. 111 (ArMA House No. 12), Certification of Medical Necessity for Hospitalization of Medicare Patients; and Resolution No. 112 (ArMA House No. 18), Driver Pre-consent for Blood Alcohol Testing. They will be reviewed and commented upon by the ArMA Delegates to the AMA at tomorrow's Board of Directors meeting.

Board of Directors

Governor Jack Williams appoints Deward G. Moody, M.D. (Nogales — Santa Cruz County) as member of the Board of Medical Examiners of the State of Arizona for a term of five years from July 1, 1967.

All "standing," "special" and "ad hoc" committee membership appointments by the Board of Directors have been accepted.

Central Office Advisory Committee

Reviewed the financial report covering the first six months of the year, which will be presented to the Board of Directors tomorrow by the Treasurer. Special attention was given to the cost of legal services for four months of this year approximating the annual appropriation therefor, heavy on legislative matters.

Roger F. White, M.D. (Phoenix) - Active, recommended for Associate membership (dues exempt) account Residency Training, effective June 1, 1967, submitted for Board approval.

History and Obituaries Committe

Recommendation for the establishment of an Arizona Museum of Medicine to be considered by Board tomorrow.

Industrial Relations Committee

Industrial Commission of Arizona appoints membership of ArMA Industrial Relations Committee as members of its Medical Advisory Board, including Drs. William B. Haeussler (Phoenix), William R. Myers (Phoenix), Hal W. Pittman (Phoenix), Thomas H. Taber, Jr. (Phoenix), and Stanley S. Tanz (Tucson).

Action of Pima County Medical Society regarding industrial case consultations referred to the Industrial Relations Committee for consideration and report.

Medical Economics Committee

Professional Committee of Arizona Blue Shield Medical Service (Fiscal Administrator — CHAMPUS) presents actions relating to: (a) UCR Claims — Guideline Complications; and (b) Direct Billing Concept. Dr. Ian M. Chesser, Chairman, Medical Economics Committee, will appear before the Board tomorrow and comment.

Professional Committee

A series of seven recommendations originating out of the meeting of the Professional Committee were reviewed, including: (a) Demonstration of Hearing Conservation Services for Rural and Smaller Communities in Arizona; (b) Arizona Diabetes Detection Program; (c) Arizona Pharmaceutical Association — Journal Publication — Article Interchange, Drug Labeling, and Annual Meeting Exhibit Participation; (d) Joint Statement of Acute Cardiac Care; (e) Selective Service Military Rejectee Criteria; (f) International Medical Town Hall Program; and (g) Model Ordinance or Statute Regulating Ambulance Service — Arizona Corporation Commission — General Order.

Dr. William G. Payne, Chairman, Professional Committee, reports concern regarding Podiatrists seeking hospital privileges, especially in the light of the action (March 11, 1967) of the Joint Commission on Accreditation of Hospitals relating to "Podiatry in Accredited Hospitals." Determined to refer subject to the Professional Committee for consideration at its next meeting (October 8, 1967) and recommendation to the Board.

Scientific Assembly Committee

Reviewed recommendations of the Scientific Assembly Committee, in meeting held June 17, 1967, to be considered by Board tomorrow.

Communications

Reviewed Resolutions adopted by the Arizona Hospital Association in meeting held May 27, 1967, relating to (a) Hospital Schools of Nursing; and (b) Training of Licensed Practical Nurses, to be considered by Board tomorrow.

Other Business

Reviewed program of the Louisiana State Medical Society presented as a proven and effective mechanism of dealing with third parties and minimizing the intrusion on the patient-physician relationship, to be presented to the Board for its information tomorrow by Central District Director, Robert A. Price, M.D.

ADDENDUM — MINUTES 5/20/67

All business pending having been discussed by the Executive Committee and properly disposed thereof, it was moved by Dr. Dudley and seconded that the Committee go into Executive Session and this request was granted.

During the Executive Session it was resolved that the following statements should apply with respect to the relative and absolute duties of the following ArMA Staff Executives: (a) Executive Secretary, (b) Assistant Executive Secretary, and (c) Executive Secretary of BOMEX.

The Executive Secretary — He shall be the General Manager of the ArMA office and shall have the supervision of all other employees of ArMA. He shall take cognizance of the entire scope of ArMA activities; in this respect he shall be aware of those activities in which the Assistant Executive Secretary and the Executive Secretary of BOMEX shall have qualified authority.

The Assistant Executive Secretary — He shall assist the Executive Secretary in the performance of his duties. Additionally, the Assistant Executive Secretary shall have the following specific duties in the performance of which he shall have authority:

1. Public Relations.
2. Publication of **Arizona Medicine.**
3. He shall be the Staff Member for the Governmental Services Committee activities.
4. He shall assist the Executive Secretary of BOMEX during the quarterly meetings of BOMEX.
5. Assist the Scientific Assembly Committee in the preparation and operation of the Scientific Assembly.

The Executive Secretary of BOMEX — In consideration of the services provided to the Executive Secretary of BOMEX by ArMA, he shall have the following duties:

1. Attend all meetings of the Board of Directors, Executive Committee, Public Relations Committee, and Scientific Assembly Committee.
2. Be the Staff Member with responsibility for the Scientific Assembly.

It was determined to recommend to the Board of Directors that this be a working arrangement for one year.

MEETING ADJOURNED AT 7:05 P.M.

John P. Heileman, M.D.
Secretary

BOARD OF DIRECTORS

Meeting of the Board of Directors of The Arizona Medical Association, Inc., held Sunday, July 9, 1967, in the Convention Center of the Safari Hotel, Scottsdale, Arizona, convened at 10:15 a.m., Richard O. Flynn, M.D., Vice President and Chairman, presiding.

ROLL CALL

PRESENT: Drs. Beckwith, Harry S.; Cloud, Daniel T.; Derickson, Philip G.; Dew, Philip E.; Dexter, Richard L.; Dudley, Jr., Arthur V., President-Elect; Dysterheft, Arnold H., President; Finke, Howard W.; Flynn, Richard O., Vice President and Chairman; Grobe, James L.; Heileman, John P., Secretary; Henderson, Charles E.; Jarrett, Paul B.; Landeen, Fred H., Treasurer; Melick, Dermont W.; Moody, Deward G.; Price, Robert A.; Rhu, Jr., Hermann S.; Sattenspiel, Edward; Standifer, John J.; Steen, William B.; Young, Woodson C. Staff — Messrs, Carpenter, Robert, Executive Secretary, ArMA; Robinson, Bruce E., Assistant Executive Secretary, ArMA; Boykin, Paul R., Executive Secretary, BOMEX. Guests — Drs. Ash, John A., President, Maricopa County Medical Society; Chesser, Ian M., Chairman, Medical Economics Committee, ArMA; Kahle, John F., Chairman, ArMPAC Board of Directors.

EXCUSED: Drs. Brooks, Jack E.; Schoen, Roland F.

WELCOME

The Chairman, in behalf of the Board of Directors, extended a cordial welcome to and introduced John A. Ash, M.D., President, Maricopa County Medical Society.

MINUTES

Approved Minutes of the meeting of the Board of Directors held May 21, 1967.

ArMPAC BOARD OF DIRECTORS

Dr. Kahle presented a rather full report on the activities of ArMPAC commencing with its annual banquet held in April last. Membership of the ArMPAC Board of Directors for the fiscal year 1967-68 was appointed by the ArMA Board of Directors in meeting held May 21, 1967. Two new members were included: Jerry L. Dodson, M.D., of Tucson, and F. Donald Ahee, D.D.S., likewise of Tucson. Since that time, a vacancy has occurred due to the death of Walter D. Anderson, M.D., of Yuma. A replacement recommendation will be forthcoming at a later date.

During the early part of June, an ArMPAC contingent attended the AMPAC Workshop in Washington, D. C., comprising the Chairman, Dr. Kahle; Dr. Dudley, President-Elect of ArMA; Dr. Paul W. Kliewer, of Wickenburg; Mrs. Elvie B. Jolley, President of the Woman's Auxiliary to the Arizona Medical Association; and the Executive Secretary of ArMA, Mr. Carpenter. It was an excellent meeting with emphasis on a continuing Membership Drive. While the total membership of ArMPAC is disappointing, every effort will be made in the months ahead to influence and increase participation. Special effort will be made through the Woman's Auxiliary to achieve the objective. A special Editorial will appear in the August issue of **Arizona Medicine** setting forth the activities of ArMPAC, its accomplishments, and urging participation among the ArMA membership. The Chairman urged reconsideration of the method of billing by the component county medical societies to include membership dues of the ArMPAC organization within the dues statement released annually covering local, state and national membership dues. Where this procedure has been followed in many states throughout the country, PAC membership has appreciably increased.

On motion regularly made and unanimously carried, an appropriation of an additional $500 was authorized paid to ArMPAC toward its Educational Fund to be used for that purpose.

MEDICAL ECONOMICS COMMITTEE

CHAMPUS Contract

In connection with the new CHAMPUS Contract, based upon the usual, customary and reasonable fee concept, which became effective April 1, 1967, to extend to March 31, 1968, the Professional Committee of the Arizona Blue Shield Medical Service (Fiscal Administrator), in meeting held June 6, 1967, on motion regularly made and carried, in discussion claims submitted in connection with the program, determined: "That these cases be approved as deemed 'usual, customary and reasonable' and forwarded to the CHAMPUS office in Denver for approval along with a letter of transmittal asking that the CHAMPUS officials re-evaluate the use of the guideline principle; also, that a copy of this letter be sent to the Arizona Medical Association apprising ArMA of the Committee's concern in this matter."

In the matter of a physician refusing to accept the CHAMPUS payment as full payment under the old contract before April first, a second motion was regularly made and carried determining: "That this case be turned over to ArMA without action and for clarification; that the new CHAMPUS contract be clarified by ArMA as to whether a policy of direct billing to the patient, as in Medicare, can be achieved."

With regard to the first action of the Professional Committee of Blue Shield, Dr. Chesser stated that some difficulty was encountered in the interpretation of the agreement had with General Norman E. Peatfield, Executive Director of CHAMPUS, at the time of negotiation of the new contract. Mr. Carpenter stated that he had visited with General Peatfield during the AMA annual meeting in Atlantic City and at that time he indicated that we had nothing to worry about, that the matter had been taken care of, and that we may expect to hear from him. The problem has to do with the application of the so-called "guideline." It is not to be used as a maximum, the UCR concept to be controlling, except in cases where the changes appear to be in excess of the usual, customary and reasonable fee. Such latter cases are to be reviewed by CHAMPUS.

Regarding the second action of the Professional Committee of Blue Shield,it was directed that that body be informed it is the consensus of the Board of Directors that it feels that, if a doctor accepts the patient (CHAMPUS in this instance), he must accept the billing; however, the doctor does not have to accept the patient, or he could accept the patient with the understanding that he would not be covered.

Industrial Commission — Arizona

Dr. Chesser reported that negotiations with the Industrial Commission in regard to increasing the fee schedule, i.e. modifying it on the basis of the usual, customary and reasonable fee concept, were commenced last December. A number of meetings have been held. Recently, the problem of radiology fees arose. The Arizona Hospital Association negotiated with the Industrial Commission a fee schedule for the care of the hospitalized patients and contracted for radiological services without the knowledge of the radiologists. Apparently, it is the custom of most areas of this State not to allocate any portion of the per diem charge, which represents a twenty-two percent increase over last year, to the gross income of the x-ray department. As a result, the radiologists are not being paid for professional services rendered industrial patients who are hospital inpatients. This will require adjustment. It is anticipated a meeting will be scheduled in an endeavor to straighten out this problem. Another problem involves the pathologists, and here, likewise, this will require an adjustment in the hospital per diem.

It is planned the Medical Economics Committee will meet with the Industrial Commission July twenty-first or July twenty-eighth. In applying the UCR concept, it must be borne in mind that the present law stipulates a fee schedule. Presently, such schedule follows the Relative Value Study of California. A factor of 6 has been proposed, which represents a thirty-three and one-third percent increase over the present schedule. ArMA is documenting its position in this regard, which will be presented to the Commission at the forthcoming meeting. Taking into account the California fee schedule, which is somewhat higher than in Arizona, possibly a 5.5 RVS (1964) conversion factor will more nearly represent the Arizona UCR concept. Using the RVS, it will be possible to re-negotiate on a year-to-year basis.

Another immediate problem involves the anesthesiologists, who, it is understood, are about to inform the Commission that, unless a successful contract is negotiated on a RVS basis within thirty days, they will not accept industrial cases on an elective basis, only on an emergency basis.

It was regularly moved and unanimously carried that this Board of Directors immediately communicate with the Phoenix Society of Anesthesiologists and the Arizona State Society of Anesthesiologists requesting their assistance in obtaining the best possible industrial fee schedule for the doctors of this State, urging their support of the Medical Economics Committee in a united front before the Industrial Commission and not act unilaterally.

ArMA HOUSE OF DELEGATES

Resolution No. 11

House Resolution No. 11, Free Choice of Physician, places ArMA on record opposing any tax-supported health care program that arbitrarily differentiates the professional ability of the physicians of Arizona to care for welfare or indigent patients, within their sphere of practice. In communicating with Congressman John J. Rhodes, he was informed by the Children's Bureau of the Department of Health, Education and Welfare that neither the Federal statutes nor regulations specify the qualifications of doctors who may participate in this program (Title V, Part 1, of the Social Security Act for the administration of grant-in-aid funds for Maternal and Child Health). The States employ standards that are pertinent to the objectives of the program and which it is believed will carry out most effectively the services to be provided. It was the suggestion of Congressman Rhodes that this matter be brought to the attention of the Arizona State Department of Health.

Joseph C. Pinto, M.D., Director of the Yuma County Health Department, by letter dated May 23, 1967, takes exception to the criticism of the Yuma County Board of Health implied in the adoption of this resolution by the House. "Free Choice of Physician," he states, is definitely encouraged and that no general practitioner in Yuma County is arbitrarily restricted from participating, that the project does not limit Maternal and Child Care to specialists, and that nowhere does the program arbitrarily differentiate the professional ability of physicians in Arizona. Dr. Dysterheft stated that he has an appointment with Dr. Pinto scheduled for Thursday of next week and that Dr. Dudley will join in the discussion.

Resolution No. 14

Resolution No. 14, Nursing Education, places ArMA on record as encouraging both types of nursing education (diploma school or collegiate graduate); further, that the advancement and remuneration of a given registered nurse be predicated on her ability as a registered nurse rather than on her degree as either a diploma school graduate or collegiate graduate.

Letters from Rosamond C. Gabrielson, R.N., President of the Arizona State Nurses' Association and Executive Director of Nursing at Good Samaritan Hospital; Loretta Hanner, R.N., Dean of the College of Nursing at Arizona State University; and Beatrice Evans, R.N., Director of Nursing Program, Northern Arizona University, were presented and read, critical of the action of the House in the content and adoption of this resolution. Their content and implications were reviewed. Miss Gabrielson has prepared a letter and asks that it be published in **Arizona Medicine.**

It was determined to request the Editor to publish Miss Gabrielson's letter with editorial comment immediately to follow to be prepared by Dr. Melick.

Resolution No. 18

Resolution No. 18, Driver Pre-consent for Blood Alcohol Testing, adopted by the House, as amended, April 29, 1967, resolved that, if it be not contrary to law, appropriate action be taken to insure that each driver, upon receiving a license to drive, agrees to submit to the withdrawal of blood for blood alcohol testing upon the request of a law enforcement officer and, failing to do so, that his driver's license automatically be revoked.

Phoenix Police Chief, Paul E. Blubaum, by letter dated May 25, 1967, advised that he cannot support ArMA's position in this matter. He stated that Implied Consent Laws of this type have been enacted in several states and that they have been ineffective in dealing with the drunk driving problem. The crux of the problem is not the amount of evidence they can secure, but the attitude of the judges and juries toward this offense. With the present attitude, it is difficult to convict offenders regardless of the evidence presented. RECEIVED.

AMA HOUSE OF DELEGATES

Dr. Steen briefed the Board on matters deliberated upon by the House of Delegates of the AMA during its recent meeting in Atlantic City. Especially did he comment on the following Resolutions introduced by the ArMA Delegation in behalf of this Association:

(a) **Resolution No. 41** (ArMA Board of Directors) — Physicians on Hospital Boards of Directors — Four resolutions were introduced relating to this same subject. In view of the varied circumstances at the local level and in the interest of clarity, the Reference Committee recommended adoption of the following resolution introduced by the Texas Delegation, amending the resolved portions, which was adopted as amended:

WHEREAS, Dr. Charles L. Hudson, President of the American Medical Association, speaking before the Annual American Hospital Association Convention held in August, 1966, stated: "Overall health care is immeasurably benefited by the working together of the well-organized hospital administrative staff and the strongly organized medical staff which both sees and accepts its responsibilities. Such a medical staff not only upholds the interests of physicians in the hospital, but is a full partner in the necessary interaction between the board of governors of the hospital and the physicians who carry out at least a portion of their practice within the hospital"; and

WHEREAS, the House of Delegates of the American Medical Association adopted the following resolution in June, 1966: "That it be the policy of the American Medical Association: that hospital governing boards be urged to include physicians in their membership; that also other appropriate representatives of hospital medical staffs should attend and participate in the meetings of hospital governing boards, but that the mode of this participation be a matter for local determination; and, that state and local medical societies be urged to seek the cooperation of their respective hospital associations to implement this policy"; therefore be it

RESOLVED, that the JCAH be requested to encourage through its publications and in its surveys, the acceptance, wherever possible, of physicians elected or appointed by the medical staffs to the Board of Trustees with full voting rights as the most effective form of liaison between the medical staff and hospital governing authorities; and be it further

RESOLVED, that this House of Delegates direct the Board of Trustees to instruct the AMA Commissioners to the JCAH to seek the full cooperation of the JCAH in implementing this principle.

(b) **Resolution No. 110** (ArMA No. 15) — Third Party Payment for Medicare Indigent Patients Under Part B — This resolution calls upon the AMA to oppose payment to third parties for physician services. The Reference Committee recognized the existence of problems involving direct and indirect pressure imposed on physicians with respect to payment for their services. It also recognizes that there exists in this area, voluntary actions by some physicians. Because of the possibility of misinterpreting the intent of Resolution 110, the Committee recommended that it be referred to the Board of Trustees for study by appropriate councils and committees, which recommendation was adopted.

(c) **Resolution No. 111** (ArMA No. 12) — Certification of Medical Necessity for Hospitalization of Medicare Patients — Six resolutions were directed to problems extending from "Certification and Recertification" requirements stipulated in P.L. 89-97. Collectively, these several resolutions recommended: (1) reiteration of the current AMA position on certification and recertification; (2) continuation of endeavors to delete from the law the stipulated requirements for certification and recertification; and (3) measures to insure against the arbitrary imposition by hospital authorities of procedures that are not required under the law. The Reference Committee commended the Missouri, Illinois, Arizona, California, Florida and Texas Delegations for their timely recommendations to the House of Delegates. In the interest of clarity and comprehensiveness, the Committee recommended as embodying the intent of the resolutions presented the adoption of Resolution 90, introduced by the Texas Delegation, with an additional Resolved, which was adopted as amended:

WHEREAS, it is the desire of physicians to provide the highest quality of care possible to all patients; and

WHEREAS, ever since the start of the Medicare program, considerable anxiety has existed throughout the nation, and particularly in some hospitals, about the requirement of certifying the admission of patients to hospitals, and for recertifying the patient on or before fourteen days and thereafter; and

WHEREAS, this problem has been accentuated by some hospitals and by some fiscal intermediaries of Part A, Medicare, which have gone beyond the requirements of Public Law 89-97, Title XVIII, by requiring physicians to sign special certification and recertification forms; and

WHEREAS, the requirements of the law with regard to certification are unnecessary and do not further the objectives of the program, namely, to provide necessary medical care to elderly patients in the same manner and in comparable high quality, as provided by the physician to his other patients; and

WHEREAS, the certification requirement does not result in enhanced medical care for the patient, but does establish needless regulation and burdensome paperwork, and encumbers the physician in devoting his fullest attention to caring for the health and well-being of the patient; and

WHEREAS, the requirement of the inclusion of substantive material concerning medical necessity in whatever form is unnecessary; without the requirement of certification, the program would be more efficient, and the physician could continue to function in his customary manner of medical practice, as guaranteed under Public Law 89-97; therefore be it

RESOLVED, that the House of Delegates reiterate the position advocated by the American Medical Association that the physician's customary practice in ordering in-patient services should be deemed sufficient to meet the requirements of the law; and be it further

RESOLVED, that the American Medical Association should continue to give strong support to that provision in H.R. 5710, 90th Congress, which would drop the certification requirement from the Medicare law, and be it further

RESOLVED, that the American Medical Association solicit the support of Part A carriers, the Blue Cross Association, and the American Hospital Association, in achieving these objectives related to certification and recertification; and be it further

RESOLVED, that the imposition of arbitrary rules and regulations on physicians by hospital administration or any other entity without the approval of the medical staff is in violation of procedures recommended by the JCAH. These violations should be reported to the local, state and national societies as well as to the JCAH for appropriate action.

(d) **Resolution No. 112** (ArMA No. 18) — **Driver Pre**consent for Blood Alcohol Testing — In considering this resolution the Reference Committee felt that the specification of the blood alcohol test weakened the intent of the resolution and recognized the difficulty of law enforcement officers in obtaining evidence. The Committee recommended for strengthening the resolution that the words "Blood-Alcohol" in the resolution title be changed to "Chemical"; that the third and fourth Whereas be deleted; and reworded the Resolved, which was adopted, as amended, with the following result:

WHEREAS, the consumption of alcohol is a factor in approximately fifty percent of fatal automobile accidents; and

WHEREAS, fatalities due to automobile accidents are steadily increasing despite all improvements in the techniques of automobile and highway construction; therefore be it

RESOLVED, that the American Medical Association encourage state medical societies to take appropriate action to ensure that each driver, upon receiving a license to drive, agrees to submit to chemical tests for alcohol upon the request of a law enforcement officer.

The 242 Delegates (one-hundred percent) were in attendance; and the House was presented with 151 items of business, including a record total of 123 resolutions from state medical associations. Dr. Milford O. Rouse, of Dallas, assumed the Presidency of AMA, and Dr. Dwight L. Wilbur, of San Francisco, was elected President-Elect.

Dr. Cloud briefly reported on other actions of the AMA House of Delegates, including Therapeutic Abortion, Health Care Cost, Government Health Programs, The Appalachia Program, Physician Control Over Collection and Disbursement of Professional Fees, The Millis Commission and Commission on Research, Medicine and Osteopathy, Medical Manpower, The Committee on Planning and Development, and, of course, the Members' Disability Insurance Program. The last was the subject of considerable correspondence prior to the AMA meeting. Approximately one full day was devoted in Reference Committee to this subject. The Board of Trustees was authorized to make every effort to continue the AMA Members' Group Disability Insurance Program with the same premium-benefit structure. Guidelines to aid the Board in negotiating and executing the necessary contracts and in the future operation of the program included: (1) the contract should provide ample assurance that disability claimants will be treated equitably and justly; (2) the carrier should guarantee benefits and premiums for a period of at least five years in order to assure the stability of the program; (3) promotional literature should be approved in advance by the Board or its designee — all measures within the bounds of dignity and ethics should be utilized to promote the program; (4) a continuous ongoing review of the entire program should be maintained — the insureds and other members should be made aware that such a review may reveal in the future the necessity for a revision of the program at the end of the five-year period; (5) information regarding the operation of the program,its financial aspects and the processing of claims should be available to the Board for review at any time; and (6) an AMA Disability Insurance Review Committee should be continued and should provide a mechanism for claims review. The Fireman's Insurance Fund presented a proposal to continue the program with the same premium-benefit structure for a period of five years effective September 1, 1967.

It was suggested for the future that the ArMA Reference Committee on Resolutions, when considering a resolution to be proposed for introduction in the AMA House of Delegates, give very serious consideration to the wording of its content in order that it may be more sophisticated. Several of ArMA's resolutions introduced this year were questioned by AMA for clarity. The

ArMA Delegates, under such circumstances, are confronted with difficulties in supporting ArMA's resolutions when confronted with searching analysis of intent by other AMA Delegates. This is to be brought to the attention of the ArMA Reference Committee on Resolutions.

BOARD OF DIRECTORS

Board of Medical Exanminers

It was reported that Deward G. Moody, M.D., of Nogales (Santa Cruz County), was appointed by the Governor to membership on the Board of Medical Examiners of the State of Arizona for a term of five years ending June 30, 1972.
RECEIVED.

Committee Appointments

It was reported that all members appointed or re-appointed by the Board of Directors to serve on its Standing, Special and Ad Hoc Committees have accepted the assignment. RECEIVED.

CENTRAL OFFICE ADVISORY COMMITTEE

Financial Report

Dr. Landeen reviewed the financial report covering the first six months of this year to and including June 30, 1967, reciting total "REVENUES" received amounting to $181,340.87 ($197,658.00 budgeted) and "EXPENDITURES" of $105,285.35 ($205,388.28 budgeted, as amended).

To meet an existing deficit, the following additional appropriation was authorized:

515 Printing $400.00

Membership Classification

MARICOPA — Roger F. White, M.D. (Phoenix) — Active, granted Associate (dues exempt), account Residency Training, effective June 1, 1967.

HISTORY AND OBITUARIES COMMITTEE

Arizona Museum of Medicine

At a meeting of the History and Obituaries Committee, held June 21, 1967, thought was given to the establisment of an Arizona Museum of Medicine to be sponsored jointly by ArMA and Arizona Blue Shield. The following recommendations are made to the Board and adoption urged: (1) that the Arizona Medical Association should pursue actively the establishment of an Arizona Museum of Medicine; (2) that the Museum should be under the auspices and control of the History and Obituaries Committee of the Association, encouraging the co-sponsorship of Arizona Blue Shield and the cooperation of the Woman's Auxiliary and other interested groups and individuals; (3) that work on the Museum start immediately upon approval of the Board of Directors; (4) that the location of the Museum be in the Central Office of the Association (at first, it could be handled by glass cabinets mounted on the walls of the reception area of the present office and in filing cabinets); (5) that, should the Association move to other quarters, one of the criteria of selection of these quarters be an adequate area designed for the specific purpose of development of the Museum; (6) that permission be granted to consult with legal counsel on several questions, including: (a) whether the Museum should be set up as a separate corporation or be operated under the present Association corporate structure, and (b) development of proper forms and procedures for receiving items on loan, gifts, grants, etc.; (7) that **Arizona Medicine** be designated as the official organ of the Arizona Museum of Medicine; and (8) that the Museum would include: (a) physical display of historically interesting artifacts, (b) writings, pictures and other materials of historical significance, and (c) provision for historical research, such research to be encouraged. Considerable discussion ensued.

It was regularly moved and carried that, while this Board of Directors recognizes that it has some responsibility in the field of Arizona Medical History and is in favor of efforts to enhance and commence the collection of historically interesting artifacts, it does not favor the assumption of the responsibility, nor does it favor the suggestion that these items be exhibited or stored in its State Offices; that it recommends to the History and Obituaries Committee that it consult with the Department of History of the University of Arizona and, if it so desires, with other agencies in Arizona (media for Historical Associations) as to the best means by which the Medical Association could cooperate in this project on Medical History; and that the History and Obituaries Committee continuously explore the possibilities, in view of developments, to the end that sometime in the future this project might be realized.

INDUSTRIAL RELATIONS COMMITTEE

The Industrial Commission of Arizona advises that its meeting held June 15, 1967, by resolution adopted, appointed the Industrial Relations Committee of this Association, comprising: Drs. William B. Haeussler (Phoenix), William R. Myers (Phoenix), Hal W. Pittman (Phoenix), Thomas H. Taber, Jr. (Phoenix) and Stanley S. Tanz (Tucson), to serve as its Medical Advisory Board, effective July 1, 1967, to continue to June 30, 1968, inclusive. Doctors in Maricopa County serving on this Board will receive $150 each per diem for meeting attendance; doctors outside the Maricopa County area to receive $200 per diem for meeting attendance, the extra $50 to defray living expenses incurred while in Phoenix. RECEIVED.

PROFESSIONAL COMMITTEE

Hearing Conservation

It was regularly moved and carried that this Board support in principle the proposed project of the Easter Seal Society for Crippled Children and Adults, Inc.: "Demonstration of Hearing Conservation Services for Rural and Smaller Communities in Arizona."

Diabetes Detection Program

It was regularly moved and carried that the Arizona Diabetes Detection Program be continued and made statewide; that the County Committees of this program be made up of General Practitioners, Internists, and other physicians with a special interest in diabetes; that the program be continued only as a "screening type of program" with no attempt to further the diagnosis of diabetes, but to refer the possible diabetics to their private physicians or to an institution if they are in a charity category; and that the Subcommittee on Aging and General Medicine, Section on Diabetes, of the Professional Committee be advised to constantly seek better means of testing.

Arizona Pharmaceutical Association

It was regularly moved and carried that this Board encourage an interchange of articles for publication in the respective journals of the Arizona Pharmaceutical Association and this Association; that it recommend the prescribing of drugs in the usual and customary fashion for patients in Nursing Homes with a specific number (of tablets) on it; in the matter of labeling of drugs, that this be entirely within the province of the physician prescribing the drug; and that the Arizona Pharmaceutical Association be invited to participate in our annual convention to the extent of supplying an exhibit (at cost).

Acute Cardiac Care

It was regularly moved and carried that this Association endorse the "Joint Statement on Acute Cardiac Care" submitted by the Arizona State Nurses' Association.

Military Rejectee Criteria

It was regularly moved and carried, in the matter of military rejeetees by Selective Service in the area of psychoneurosis and psychiatric disability, that the Chairman of the Subcommittee on Mental Health of the Professional Committee be designated to confer with the Arizona Psychiatric Society for the purpose of drawing up suggested appropriate criteria for the Selective Service in the areas aforementioned; that, when such criteria is completed, it be presented to the Professional Committee for review and recommendation to the Board of Directors; and that this Association, following review and approval of said criteria by its Board of Directors, draw the attention of the American Medical Association thereto in an endeavor to bring pressure to bear for upgrading the current Selective Serivee standards.

Medical Town Hall Program

It is recommended that the Arizona Medical Association co-sponsor with the Arizona Psychiatric Society a "kick-off program" of the proposed annual International Medical Town Hall, the formal program to be the administration responsibility of the Arizona Psychiatric Society with the President of The Arizona Medical Association, Inc., as an active member of the Program Committee charged with the responsibility of approving all major and minor details according to his discretion and holding of veto power, The Arizona Medical Association, Inc., to have the responsibility of organizing and sharing the Planning Committee, including the inviting of qualified representatives and proceeding with developing a formal structure for future annual symposiums, without financial responsibility. Considerable discussion ensued. TABLED.

Ambulance Service

It was regularly moved and carried that this Board of Directors approve the obviously carefully prepared Model Ordinance (regulating Ambulance Service, to be submitted to the Arizona Corporation Commission for adoption as a General Order appropriate for the State of Arizona, which meets the minimum requirements of the Federal Safety Standards, P.L. 4.411, enacted by Congress, regulated by the National Highway Safety Agency), bearing the approval of the Executive Committee.

SCIENTIFIC ASSEMBLY COMMITTEE

Paul J. Nichols, M.D. (Phoenix) appointed as Assistant Chairman; and John P. Heileman, M.D. (Phoenix) appointed Secretary.

The 77th Annual Meeting of the Association to be held at the Safari Hotel, Scottsdale, is recommended extended one full day to accomplish a new format of arrangements — April 23 through 27, 1968.

It was further recommended that a complete review of available facilities in the Scottsdale area be accomplished by its Chairman and staff prior to establishing a meeting place or places for the 1969 and 1970 Annual Meetings. Determined that such review be extended to include available facilities in the Valley and not limit it to Scottsdale.

Arrangements: Board of Directors meeting to be held Tuesday, April 23, 1968, at 10:00 a.m., luncheon at 12:00 noon; House of Delegates meetings to be held (First Session) Tuesday, April 23, 1968, at 1:00 p.m. (General Session at 2:30 p.m.), and (Second Session) Saturday, April 27, 1968, at 8:00 a.m.; ArMA Reference Committee meetings: Articles of Incorporation and By-Laws to be determined, Resolutions to be held Wednesday, April 24, 1968, at 8:00 a.m.; Blue Shield Corporate meetings (First Session) Tuesday, April 23, 1968, at 3:30 p.m., and (Second Session) Saturday, April 27, 1968, at 10:30 a.m.; Blue Shield Reference Committee meeting Wednesday, April 24, 1968, immediately following the ArMA Reference Committee on Resolutions meeting; Tuesday evening, April 23, 1968, following a full day of business meetings, a free evening is provided; Wednesday evening, April 24, 1968, the President's Reception and Banquet followed by high-caliber entertainment; recommended that the registration fee for the incoming President, including social events, be borne by the Association, said President to be given the privilege of inviting up to six outside guests to his banquet, if he so desires, at no cost — this affair to be by ticket reservation made available to members and their guests at cost; Thursday evening, April 25, 1968, reception and "steak fry" on the lawn of the Safari Hotel, the reception at 7:00 p.m. with dinner to follow at 8:00 p.m. — exhibitors and their wives to be guests of the Association and members of ArMA and guest speakers to be provided two tickets on registration for this event at no additional cost; Friday evening, April 26, 1968, reserved for ArMPAC event, also, Specialty and Alumni groups to be granted privilege to schedule events on this evening; Annual Golf Tournament preferable Wednesday afternoon, April 24, 1968 — Dale H. Stannard, M.D., selected Golf Committee Chairman — allocation of $100 toward prizes for the tournament recommended; Sports Events survey directed to be undertaken by the Central Office utilizing "Medical Memos" to determine the desirability of having tournaments in tennis, bowling and bridge. The financial report for the period ending June 9, 1967, reflects a deficit for the 1967 Annual Meeting of $827.34. Additional income and expenditures are anticipated.

Anticipates a Registration Fee to be established at $10 per member, exempting therefrom Fifty-Year Club members, Interns, Residents, Fellows, Military Physicians, Registered Nurses, members of the Woman's Auxiliary, Exhibitor Representatives, Press and Guest Orators. Fifty-year Club members, Guest Orators and Press are to be guests of the Association at all affairs; others herein listed will be expected to purchase tickets for receptions or meals attended with the exception of Exhibitors, who will be guests of the Association at the "steak fry." Newcomers Program to be continued.

Every effort will be made to obtain qualified scientific exhibits of Arizona origin; that scientific exhibits be limited to those of clinical, laboratory or epidemiological research of Arizona origin, they to be manned at all times, Dr. Sattenspiel to review each exhibit for acceptance.

Recommended continuation of the Mead Johnson Aesculapius Award Program, each member of the Scientific Assembly Committee requested to present his recommendation for the winner to Dr. Zeluff not later than 3:00 p.m., Thursday, April 25, 1968.

Technical Exhibits are to be excluded unless available exhibit space is purchased at the Commercial Exhibit rate.

Commercial Exhibit fee to be established at $300 each; for those ethical pharmaceutical companies declining exhibit space, they to be privileged to contribute toward the scientific meeting. Exhibit Attendance Awards are to be continued, the possibility of obtaining prizes from pharmaceutical houses to be explored, and in the event this is not deemed feasible or prudent, purchase of such prizes to be made from budget. Exhibitor representatives and their wives are to be privileged to attend the President's Banquet on purchase of tickets.

Community Service Award by the A. H. Robins Company is to be continued; the first notice of this event is to be released to component county medical societies September first with followup letter December first and "deadline" receipt of applications to be established as February first.

AAGP Category I credit to be sought through Dr. Richard O. Flynn.

Fee of $150 as an assesment for use of guest faculty by specialty groups to be continued, such meetings to be limited to Tuesday, Thursday, Friday and Saturday luncheons, Tuesday and Friday evenings.

A maximum of three exhibit hall spaces to be provided the Woman's Auxiliary Hobby, Art and Hospitality features.

On Thursday and Friday, April 25 and 26, there is to be provided two breakfast panels; two afternoon panels; and thirty-two individual papers conducted in eight sessions of four concurrent presentations each, delineating the four major fields of Medicine: Internal Medicine, Surgery, Obstetrics and Gynecology, and Pediatrics. Effort will be made to obtain a guest faculty from the University of Southern California Medical School.

The 1968 Annual Meeting program will be published about April 1, 1968, the program to be published in Arizona Medicine, March issue rather than the April issue; publicity to be conducted by staff on approval of the Chairman; a representative of the Fiscal Agent for Public Law 89-97, Part B, be invited to address the First Session of the House of Delegates, Tuesday, April 23, 1968; members of the House of Delegates be required to register for the Annual Meeting; and a uniformed guard be employed and stationed at the entrance of the exhibit hall and the meeting rooms to deny admission to any person not wearing a registration badge provided by ArMA.

It was regularly moved and carried that this Board approve a policy change wherein Specialty Societies would be permitted to make use of Guest Speakers, without charge, provided that (a) these speakers be utilized at luncheon meetings during the course of the Annual Meeting; and (b) the attendance at the luncheon meetings be limited to those registered for the Annual Meeting.

It was regularly moved and carried that only the function of ArMPAC be allowed on Friday evening, April 26, 1968.

Considerable discussion ensued as to the appropriate dates to hold the President's Banquet, the Steak-Fry, and the ArMPAC event. Suggestions were offered that it might be a better arrangement to hold the ArMPAC feature on Wednesday night, the Steak-Fry on Thursday night, and the President's Banquet on Friday night.

It was regularly moved and carried that the arrangement for these three events be referred back to the Scientific Assembly Committee for further consideration with the thought that it is the feeling of this Board that the President's Banquet ought not be held before the opening of the Scientific Session.

It was regularly moved and carried that this Board discourage the employment of a uniformed guard at our meetings.

MEETING ADJOURNED FOR LUNCHEON AT 1:15 P.M.

* * * * *

MEETING RECONVENED AT 2:35 P.M., ALL MEMBERS PRESENT DURING THE MORNING SESSION RESPONDED "AYE" TO THE ROLL CALL WITH THE EXCEPTION OF DEWARD G. MOODY, M.D.; RICHARD O. FLYNN, M.D., CHAIRMAN, PRESIDING.

SCIENTIFIC ASSEMBLY COMMITTEE

Considerable discussion ensued regarding the establishment of a Registration Fee of $10 vs. a package deal for $25, including the President's Banquet, as has been done in the past; also, unfavorable comments were expressed regarding press coverage. It was the suggestion that the Scientific Assembly Committee, along with the Public Relations Committee, consider providing for a Press Room arrangement wherein Speakers could assemble at specified times for the purpose of Press interview; and the wisdom of hiring a Public Relations Expert to prepare and handle press releases was suggested.

It was regularly moved and carried that the Scientific Assembly Committee be requested to prepare and present to this Board a program which will satisfy its desires with regard to Press Relations with the cooperation of the Public Relations Committee.

COMMUNICATIONS

AHA Resolutions

The Arizona Hospital Association presented two resolutions adopted by it on May 27, 1967: (1) that this Association (AHA) go on record as strongly endorsing the American Hospital Association's position statement on Hospital Schools of Nursing passed by the Board of Trustees, May 8-10, 1967, and that the Arizona Hospital Association strongly endorse the passage of the necessary bylaw changes of the American Hospital Association to establish a type VIII Category Membership for Hospital Schools of Nursing in the United States, through which these programs can be promoted in every way possible, therein assisting in meeting the health needs of the citizens of the country; and (2) that the Arizona Hospital Association go on record as supporting the continued education of properly qualified people in approved licensed practical nurse training courses throughout the state, that existing approved schools training licensed practical nurses be encouraged to continue at their current capacity and to expand whenever possible, that new schools for training licensed practical nurses be initiated whenever appropriate until the need for such trained persons can be met, and that every effort be made to encourage qualified licensed practical nurses to continue to upgrade themselves through additional appropriate training programs, and that educational institutions be encouraged to give every consideration to transferability of appropriate credit for prior training and experience.

As this all has a bearing on Resolution No. 14, adopted by the ArMA House of Delegates, which relates to Nursing Education, criticized by the ASNA, it was determined to publish the critique of Rosamond C. Gabrielson, R.N., as previously determined, the resolution of ArMA and the resolution of AHA, as suggested by Dr. Melick.

OTHER BUSINESS

Louisiana Medical Form Program

Dr. Price reported that, during the annual meeting of AMA held in Atlantic City, the Louisiana State Medical Society exhibited its "Medical Form Program" declaring it an effective mechanism of dealing with third parties and minimizing the intrusion on the patient-physician relationship. Copies were distributed. This program, based on the principle of individual responsibility, represents a new attitude on the part of the physicians toward any and all third parties with whom they may come in contact with their practices. In addition, it offers great savings in time in the preparation of insurance forms and has proven an effective method of encouraging direct billing of Medicare and other government patients. Approximately ninety percent of the claims processed under Title XVIII of Medicare have been on a direct-billing basis.

It was regularly moved and carried that the Louisiana State Medical Form Program be referred to the Medical Economics Committee for study and report.

ArMA Staff Job Descriptions

It was regularly moved and carried that the following job descriptions of ArMA Staff Executives, as amended, be approved:

THE EXECUTIVE SECRETARY: He shall be the General Manager of the ArMA office and shall have the supervision of all other employees of ArMA. He shall take cognizance of the entire scope of ArMA activities; in this respect, he shall be responsible for the activities of the Assistant Executive Secretary and the Executive Secretary of BOMEX (relating to ArMA activities).

THE ASSISTANT EXECUTIVE SECRETARY: He shall assist the Executive Secretary in the performance of his duties. Additionally, the Assistant Executive Secretary shall have the following specific duties in the performance of which he shall be responsible: (1) Public Relations; (2) Publication of Arizona Medicine; (3) he shall be the Staff Member for the Governmental Services Committee activities; (4) he shall assist the Executive Secretary of BOMEX during the quarterly meetings of BOMEX; and (5) assist the Scientific Assembly Committee in the preparation and operation of the Scientific Assembly.

THE EXECUTIVE SECRETARY OF BOMEX: In consideration of the services provided to the Executive Secretary of BOMEX by ArMA, he shall have the following duties: (1) he shall attend all meetings of the Board of Directors, Executive Committee, Public Relations Committee and Scientific Assembly Committee; and (2) he shall be the Staff Member with responsibility for the Scientific Assembly Committee.

It was regularly moved and carried that Counsel be instructed to review the Opinion (No. 67-12-L — R-56 — February 28, 1967) of Darrel F. Smith, Attorney General of Arizona, and give this Board of Directors an opinion on this topic.

MEETING ADJOURNED AT 3:35 P.M.

John P. Heileman, M.D.
Secretary

GOVERNMENTAL SERVICES COMMITTEE

The meeting of the Governmental Services Committee of The Arizona Medical Association, Inc., held Sunday, July 16, 1967, in Suite 201, 4601 North Scottsdale Road, Scottsdale, Arizona, convened at 10:12 A.M., William B. Steen, M.D., Chairman, presiding.

ROLL CALL

PRESENT: Drs. Caldwell, Hayes W.; Dew, Philip E.; Dysterheft, Arnold H., President; Heileman, John P., Secretary; May, Derald G.; Spendlove, George A.; Steen, William B., Chairman; Yount, Jr., Clarence E.. Staff: Messrs, Carpenter, Robert, Executive Secretary; Robinson, Bruce E., Assistant Executive Secretary. Guest: Mr. Blazek, James J., Administrator, Medicare Claims, Aetna Life & Casualty.

EXCUSED: Drs. Cloud, Daniel T.; Dries, Charles P.; Dudley, J., Arthur V., President-Elect; McDonald, Richard T.; Ochsner, Albert J.; Reed, Wallace A.

MINUTES

The minutes of the meeting of April 16, 1967, were approved as distributed.

INTRODUCTION OF NEW MEMBER

Dr. Steen introduced and welcomed Dr. Philip E. Dew, Tucson pediatrician, to the activities of the committee.

CARRIER — PART B — AETNA LIFE & CASUALTY

Mr. Blazek reported as follows:

1. Since the first of the year, Aetna has been paying out approximately one million dollars a month, with the average check being near $70.00.
2. Four hundred to five hundred telephone calls per week are made to physicians' offices.
3. Claims are being filed as follows:

Unasigned claims	50.5%
Assigned claims (non-hospital based physicians)	29.0%
Assigned claims (hospital based physicians)	20.5%

(Note: A "claim" may include more than two bills.)

4. Bills are being filed as follows:

Unassigned	61%
Assigned	29%

Bill Review

Mr. Blazek read the following new procedures recently issued by HEW regarding scrutiny of bills.

"Expenses for items or services which are not reasonable and necessary for the diagnosis or treatment of illness or injury or to improve the functioning of a malformed body member are excluded from coverage under both Part A and Part B of the program. Carriers have the authority and responsibility to determine, in a given case, whether a claim is for a covered service and to deny claims for noncovered or excluded items or services. In addition, carriers are to assist in the application of safeguards against unnecessary utilization of services furnished eligible individuals. In carrying out its responsibilities, the carrier must take the necessary steps to reconcile any inconsistencies encountered in its bill review. Issues involving apparent inconsistencies between diagnosis and treatment and any other questions relating to the reasonableness of items or services rendered by physicians should be reviewed by the carrier's medical staff. Bill review techniques developed as a result of the carrier's experience may be used or adapted for operations applicable to this program.

"Carriers also have the responsibility of determining the reasonable charge for covered services and the authority to determine the amount payable for the nonprovider Part B services. Its certification that payment is proper should be based upon the data on the billing form and any attachments, as well as additional documentation or supportive information which is required to resolve questions arising from its bill review function."

PHYSICAL EXAMINATIONS OF BENEFICIARIES BY CARRIERS

"Carriers have the authority to obtain an independent medical examination of a beneficiary where medical personnel of the carrier conclude that such an examination will assist the carrier in properly and effectively complying with its responsibilities under the program. Expenses incurred by carriers in connection with obtaining such independent medical examinations are reimbursable administrative costs to the carrier. It is expected, however, that carrier-initiated examinations will be utilized only after other methods of resolving the issue have been explored and found to be insufficient, and then only with the express permission of the beneficiary. (Information which may be derived from hospital records and contracts with the beneficiary's attending physician, and evaluations of such data by the carrier's own medical personnel as well as the appropriate committees of local medical societies are among the more usual methods available to carriers which should be explored for purposes of resolving questionable claims before a carrier-initiated examination of the beneficiary is considered.) The only use to be made of the medical information derived from an independent examination is to assist the carrier in its claims review process."

It was recommended that the above policy be brought to the atention of the membership via "Medical Memos."

Review Committee

Mr. Blazek indicated that confusion exists as to the function of the Central District Review Committee.

Following discussion of the problem, Dr. Steen was directed to contact Dr. John A. Ash, President, Maricopa County Medical Society, to have him suggest a list of committee members for Dr. Steen to appoint. Following said appointment, Mr. Blazek would visit with the chairman of the review committee to ensure complete understanding of their function.

Mr. Blazek reviewed the function of the Review Committee as follows:

1. There will be established six review committees representing the fourteen counties in Arizona, and following the geographical areas of the already established district committees.
2. It was determined that each district director would serve as Chairman of the review committee in his district with full discretion to appoint the number of members he deemed necessary to serve with him.
3. It was decided there would be no State review committee established at this time.
4. The official names of the Committees would be Governmental Services Review Committee of Central, Northeastern, Northwestern, Southeastern, Southern or Southwestern, Arizona.
5. The Committee felt it would be best not to submit a definite time as to when the review committees must meet, but rather use the approach "as necessary." They assured me that if the various review committees do not meet within a reasonable

time after receiving a referred case, that they would bring pressure to bear.

6. Submittal procedure will be as follows:
   a. Present a sample of a form which we adopted.
   b. It was decided the attending physician would be sent a copy of all material.
   c. Determined that the patient would not be notified of the case being referred.
   d. It was decided that the identity of the patient and the attending physician would be made known to the review committee at the time of submittal.

Committee Procedure:
   a. Decided that the attending physician would be invited to attend the committee meetings.
   b. The Committee chairman will have discretion as to whether each case is to be heard by the committee or assigned to one individual to do preliminary review of all information and material submitted.
   c. The opinion and the findings of the review committee will be reported to the attending physician as well as to Mr. Blazek.

Miscellaneous:
   a. It was decided that the committees would not use a central secretary, but that Aetna would submit their cases directly to the committee chairman of the area concerned.
   b. It was determined that the review committee would not impose any penalty or discipline, but would rather report any aggravation to the appropriate grievance committee.

It was suggested that the membership be asked, via "Medical Memos," to submit any complaints about the carrier to the Association so that they can be cleared up by efforts on the part of the carrier. Mr. Blazek indicated that his office would be happy and eager to hear of these criticisms so that they can be taken care of.

P.L. 89-97 — PART A

Dr. Caldwell reviewed a number of areas of concern as follows:

1. Payment for hospital volunteers as one of the many causes for increased Medicare costs;
2. The appeal by hospitals for higher reimbursement and provision of funds for expansion and building; and
3. The rise of average daily hospital costs from $48.83 per day in September 1965 to $57.93 in September 1967, and projected to $70.00 by 1970.

Dr. Caldwell reviewed the Health Facilities Planning Council's report of "Length of Stay of Patients over 65" and pointed out the striking variations between individual hospitals in Maricopa County. He pointed out that the average length of stay ranges from 5 days to 23.7 days depending on the hospital. It was recommended that some form of distribution of this information be made to the membership so that they can be aware of this alarming, apparent trend.

SUBCOMMITTEE ON ECONOMIC ASPECTS OF MEDICINE

Dr. Caldwell reviewed briefly the "Second Medicare Fee Survey Results — June 1, 1967" for the committee. (This nineteen-page report is available for reference at the Central Office.) The committee commended Dr. Caldwell for an excellent survey and report.

It was moved and unanimously carried that the President is to have permission to discuss some of the comments relative to hospital costs with the Arizona Hospital Association.

SUBCOMMITTEE ON OEO PROGRAMS

The appointment of Philip E. Dew, M.D., as Chairman of this Subcommittee was confirmed.

Dr. Dew reviewed the American Medical Association's policy on OEO programs and certain state programs.

Head Start Program

It was pointed out that, of all OEO programs, the Head Start Program appears to have the most potential for attaining stated goals as long as a high level of medical supervision can be maintained.

SUBCOMMITTEE ON MENTAL HEALTH

Dr. May reported on the general status of mental health programs in the state, particularly as they relate to obtaining federal funds for Arizona use.

Senate Bill 1132

Dr. May reported on SB 1132 which has become a law. (The purpose of the bill was to extend, expand and improve public health laws relating to mental health.)

It was pointed out that ArMA will probably be asked for their opinion on whether there should be enabling legislation for state mental health funds, which, in turn, will bring up the question of which state agency should be designated to handle the funds and the program.

It was recommended that the Arizona Psychiatric Society, the State Department of Health Advisory Committee and ArMA, represented by Dr. May, get together to develop legislation on this subject. Dr. May was officially designated as ArMA's representative.

It was suggested that:

1. The program should be handled by the State Health Department, not the State Hospital.
2. The programs be "local" in origin with only guidance and perhaps "seed" money to help start them. Once started, they should use local resources as much as possible.

SUBCOMMITTEE ON TITLE XIX

The appointment of Stanford F. Farnsworth, M.D., to the subcommittee was confirmed.

Dr. Caldwell reported on recommendations of the Society of Internists as follows:

1. Page 6 — 5(a)—: That no priority be established. That all should be treated equally so that this section be used as a guide in situations of reduced government funds, all would be treated the same.
2. That all recipients would have an identification card.

It was agreed to include a pediatrician on the Title XIX Subcommittee. Dr. Steen is to consider possible appointees.

COMMUNICATIONS

George W. King, M.D.

Dr. Heileman read Dr. Shapiro's letter dated 4/20/67 regarding George W. King, M.D.

It was determined that Dr. King is to be notified that this committee objects to procedures of providing specialty information and to the coding of physicians.

Board of Directors

Dr. Heileman read the letter from the Board of Directors dated 6/12/67 regarding 1) "Indigent Medicare Patients – Assignments" and 2) "Medicare Fee Financed Foundations," which were recommendations to the Board from this committee which the Board did not act to implement.

It was moved and unanimously carried that the above two recommendations be referred back to the Board of Directors for reconsideration, and if the rationale for not acting upon them this time is primarily limited to fiscal considerations, that this be so stated and the opportunity for financing be done by private sources in the community of physicians with or without reimbursement from funds obtained in the future. The committe urges the Board of Directors to approve these two proposals.

OTHER BUSINESS

Subcommittee on Comprehensive Health Planning

It was moved and unanimously carried that Stanford F. Farnsworth, M.D., be appointed to the Governmental Services Committee as Chairman of the Subcommittee on Comprehensive Health Planning.

Title V

Dr. Spendlove reviewed the implementation of Title V as follows:

> The Arizona State Department of Health, Maternal & Child Health Section, with the support and cooperation of the Arizona Advisory Committee on Prematurity; St. Joseph's Hospital, Phoenix, and Good Samaritan Hospital, Phoenix, is preparing to accept babies into a special demonstration project for the transport and care of the premature infant.
>
> This Project, funded initially through Maternal & Child Health Formula Grants administered by the U.S. Children's Bureau, has as its goal the reduction of morbidity and mortalinty due to prematurity. The Project is prepared to furnish for qualified applicants, transportation by surface or air ambulance in specially designed transport incubators accompanie dby registered nurses with advanced special training in the care of the small premature infant, to either St. Joseph's Hospital, Phoenix, or Good Samaritan Hospital, Phoenix, for definitive care.
>
> To be eligible for this Project, babies must be born outside the metropolitan Phoenix area since the Project is aimed primarily at babies born in the sparsely settled areas of Arizona in which hospital equipment, facilities and trained teams for the care of the premature are not readily available. To be eligible, babies must weigh at birth less than 2,000 grams, except in unusual circumstances in which an acute medical problem occurring at or shortly after birth is deemed by the Project Director to require the kind of intensive care normally given to the small premature infant.
>
> Project funds will be available to defray that portion of transportation and hospitalization costs which are not covered by insurance or can not be borne by the family. All applications for admission of babies to the Project are to be made to the Project Director who will determine in each case whether facilities are currently available and whether the baby meets the criteria for the Project.
>
> It should be emphasized that this Project at present is supported by limited funds and is not intended to provide hospitalization or to defray any expenses for the average premature baby, but is designed rather to meet the unusual needs of the rare individual premature who has complicating conditions; sometimes very low birth weight, sometimes other medical conditions which jeopardize his intact survival, and which have a reasonable chance of being altered favorably by hospitalization in an intensive care center.
>
> Participating hospitals were selected on two criteria:
>
> 1. Their interest and continuing support for the development of such a project.
> 2. Their ability to provide physical facilities and medical and nursing staffing which can fairly be termed intensive care facilities.

Reimbursement to the hospital from the Project will be on the basis of reasonable costs, and will be handled through the Blue Cross-Blue Shield Organization as a fiscal intermediary. Reimbursement to physicians, providing care in these hospitals, will be on the basis of reasonable, usual and customary fees. Selection of physicians for individual cases will be by the hospitals on a rotating basis. The Project Director will be Belton Meyer, M.D., recently established Pediatrician and Neonatologist in Phoenix, who is a graduate of the University of California where he obtained his basic medical degree, his internship, and his pediatric residency, and who has recently completed an additional two year fellowship at Stanford University in Neonatology. Dr. Meyer is acting as a consultant to the State Health Department in the Intensive Care Project and as Project Director.

MEETING ADJOURNED 3:34 P.M.

John P. Heileman, M.D.
Secretary

PUBLISHING COMMITTEE

The meeting of the Publishing Committee of The Arizona Medical Association, Inc., held Wednesday, July 19, 1967, in the Central Office of the Association, Suite 201, 4601 North Scottsdale Road, Scottsdale, Arizona, convened at 7:28 P.M., Roland F. Schoen, M.D., Editor-in-Chief, Chairman, presiding.

PRESENT: Drs. Foster, R. Lee; Green, John R.; Schoen, Roland F., Editor-in-Chief, Chairman. **Staff:** Messrs. Carpenter, Robert, Executive Secretary; Robinson, Bruce E., Assistant Executive Secretary.

EXCUSED: Drs. Dudley, Jr., Arthur V., President-Elect; Dysterheft, Arnold H., President; Heileman, John P., Secretary; Jabczenski, Felix F.; Johnson, Kenneth E.; Lorenzen, Robert F.; McGrath, William B.; Taylor, Preston J.

MINUTES

It was moved and unanimously carried that the Minutes of the meeting of April 23, 1967, be approved as distributed.

MEDICAL SOCIETY OF THE UNITED STATES AND MEXICO

The status of the Medical Society of the United States and Mexico, as it relates to ARIZONA MEDICINE, was reviewed. It was pointed out that the policy of providing free copies of the journal to the members has been discontinued. Three subscriptions have been received to date.

Dr. Elizabeth Gavitt has agreed to take over as Associate Editor for the group, replacing Dr. James Nauman who submitted his resignation.

It was moved and unanimously carried that the financial report be accepted.

BLUE SHIELD PAGE

The general subject of including Blue Shield information in the journal on a regular basis was discussed extensively.

It was moved and unanimously carried that the President of Blue Shield be invited to submit Blue Shield reports over his signature. Said reports to be printed in the "ArMA Reports" section of the journal.

SOUTHWESTERN MEDICINE

The subject of consolidating SOUTHWESTERN MEDICINE and ARIZONA MEDICINE was discussed. Dr. Foster reviewed in detail the history of SOUTHWESTERN MEDICINE. No action taken.

COMMUNICATIONS

Mr. Robinson read a letter from Dr. Merlin K. DuVal, dated 6/27/67, expressing appreciation for including medical students and faculty members on the complimentary subscription list.

OTHER BUSINESS

Front Cover Advertising

It was moved and unanimously carried that at the end of the current contract year we would no longer accept advertising on the cover of ARIZONA MEDICINE.

MEETING ADJOURNED 8:45 P.M.

John P. Heileman, M.D.
Secretary
By Bruce E. Robinson
Assistant Executive Secretary

CENTRAL OFFICE ADVISORY COMMITTEE

Meeting of the Central Office Advisory Committee of The Arizona Medical Association, Inc., held Thursday, July 20, 1967, in the Cactus Room of the Francisco Grande Hotel, Casa Grande, Arizona, convened at 2:10 p.m., John P. Heileman, M.D., Secretary and Chairman, presiding.

ROLL CALL

PRESENT: Drs. Dudley, Jr., Arthur V., President-Elect; Dysterheft, Arnold H., President; Flynn, Richard O., Vice President; Heileman, John P., Secretary and Chairman; Landeen, Fred H., Treasurer. Staff: Messrs. Carpenter, Robert, Executive Secretary, ArMA; Robinson, Bruce E., Assistant Executive Secretary, ArMA; Boykin, Paul R., Executive Secretary, BOMEX.

EXECUTIVE COMMITTEE

While this meeting was actually called as one of the Executive Committee, having the same membership as the Central Office Advisory Committee, it was determined to be conducted as one of the latter because of some question of authority of the former. The Executive Committee was first established during the term of office of the then President, Dr. Lindsay E. Beaton, in 1960, by authority of the Board of Directors of this Association in meeting held June 5, 1960. Chapter VII — Standing and Special Committees, Section 1, provides in part: ". . . there shall be standing committees as hereinafter specified, and such special committees as may be expedient in carrying out the work of the Association . . . ."

It was regularly moved and carried that there be referred to the Articles of Incorporation and By-Laws Committee for consideration and recommendation to the Board a provision in the By-Laws specifically providing for the creation of an Executive Committee of the Board of Directors (Chapter VI), delineating its authority.

ACCOUNTING

At the request of the Treasurer, Dr. Landeen, budgetary appropriation accounts were reviewed in depth for the enlightenment of the Committe members. Special attention was devoted to annual meeting expenses in each category.

ArMA Annual Meeting Expenses

It was determined to refer to the Board of Directors for consideration the wisdom of inquiring of the Blue Shield Corporate Body the possibility of increasing its financial contribution toward the cost of operation of its annual meeting held concurrently with that of ArMA.

It was determined to refer to the Scientific Assembly Committee for discussion the policy of reimbursement of guest speaker expenses, possibly to include frist-class, round-trip airplane fare and some honorarium, or a fixed amount, and submit its recommendation to the Board of Directors.

It was further requested that the description (title) of accounts associate with the annual meeting expenses be reviewed and revised to make them more meaningful and/or descriptive, and possibly more detailed.

AMA Meeting Expenses

It was regularly moved and carried that the Central Office Advisory Committee recommend to the Board of Directors the establishment of policy, with regard to payment of expenses of Delegates, Alternate Delegates and Officers authorized to represent this Association on official business at designated meetings and in attendance, to comprise first-class, round-trip airplane fare and a per diem of $40, subject to adjustment if and when indicated.

Referred to the Board of Directors the matter of maintaining and operating a Hospitality Room during the AMA annual and clinical meetings.

Central Office Facilities

The Central Office, located in the Safari Building, 4601 North Scottsdale Road, Scottsdale, Arizona, is under a five (5) year lease with owners of the Safari Hotel, terminating July 31, 1969. An option to renew for an additional five (5) years is provided requiring thirty (30) day notice, at a rental increase of ten percent. Suite No. 201 is occupied by ArMA, comprising 1,650 square feet at $4.00 per square foot, or $550.00 per month plus taxes amounting to $22.00. ArMA is required to guarantee the rental of BOMEX. Currently, space is inadequate.

Suite No. 202 is occupied by BOMEX under State of Arizona lease of one (1) year, renewable annually, comprising 750 square feet at $4.00 per square foot, or $260.00 per month.

Discussion ensued as to the advisability of considering rental vs. building; however, time did not permit adequate evaluation at this time. It was indicated that further deliberation thereon is imperative and should be pursued now if any consideration is to be given building. This item is to appear on the agenda of the next meeting.

Committee Meeting Expenses

A three-page tabulation of luncheon and/or dinner meeting expenses was prepared and submitted for review. It was determined to provide each member with a copy, the subject to be further discussed, if indicated, at the next meeting of the Committee.

MEETING ADJOURNED AT 4:00 P.M.

John P. Heileman, M.D.
Secretary

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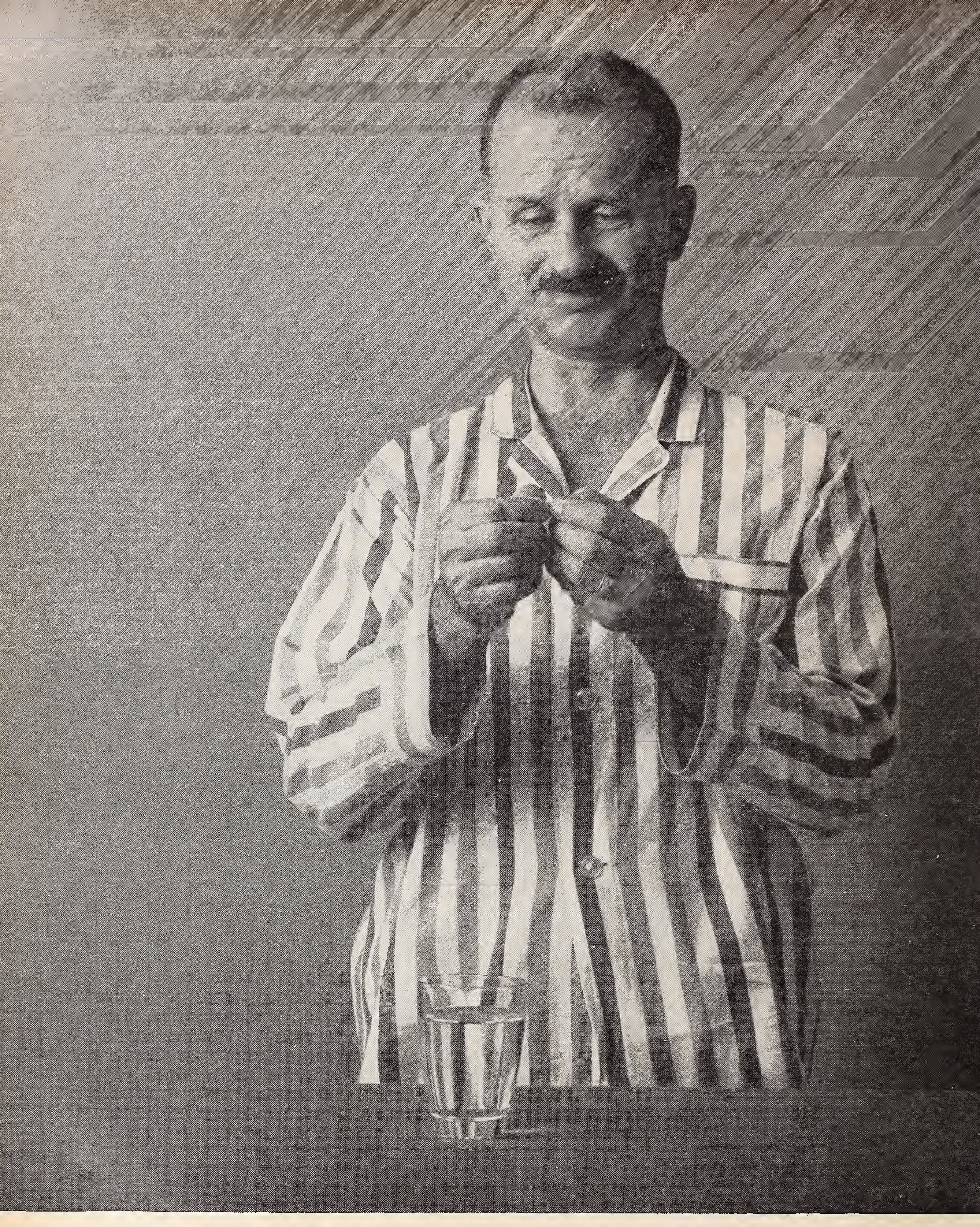
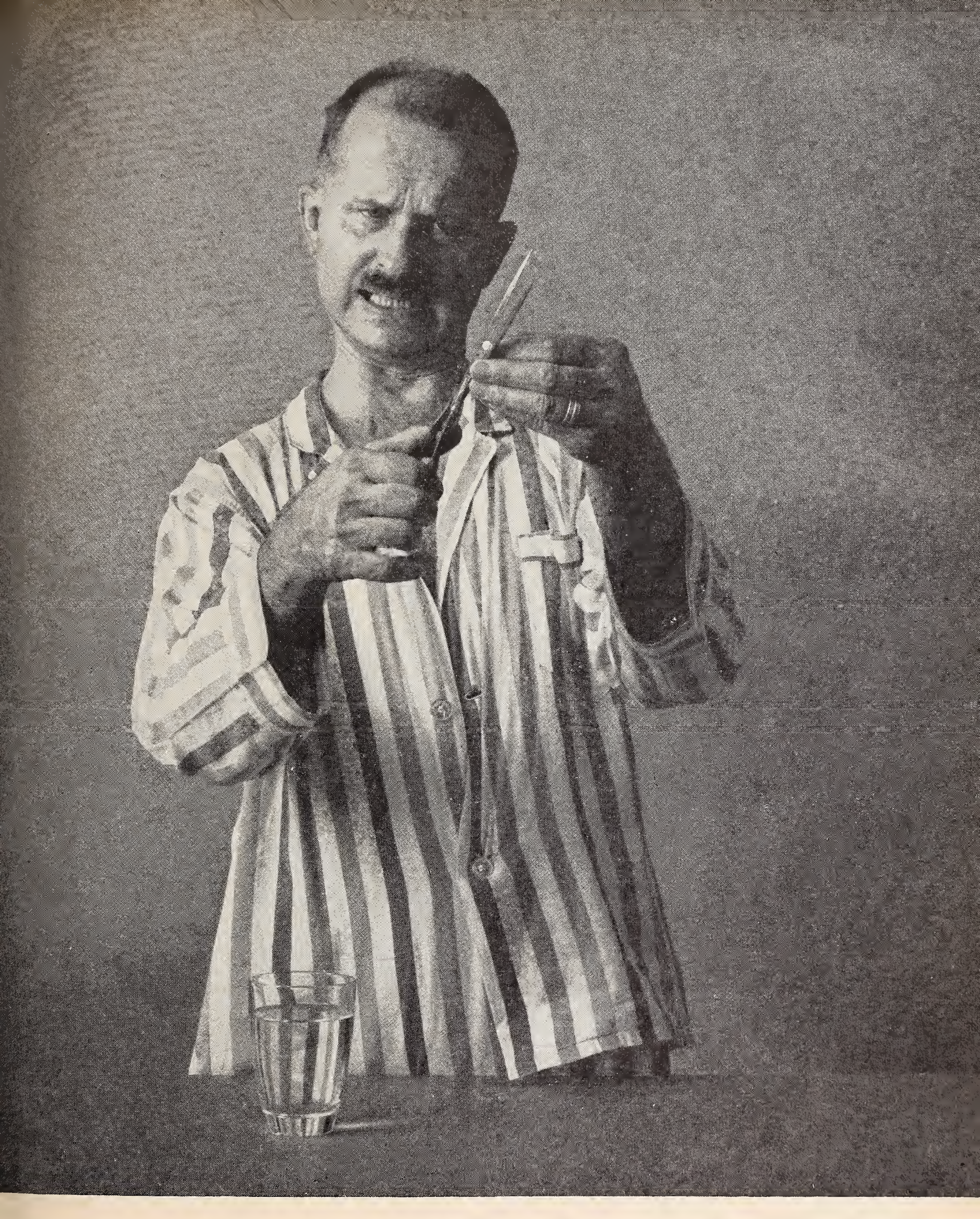


Maybe you don't want
your patients to halve Hygroton® chlorthalidone.



aybe your patients complain:
hy don't they make a tablet I don't have to halve?"

se see brief prescribing summary at the end of advertisement.

Maybe you abandoned Hygroton chlorthalidone because there wasn't a convenient half strength.

ns: Hypertension and many types of
volving retention of salt and water.

dications: Hypersensitivity and most
severe renal or hepatic disease.

With the administration of enteric-
otassium supplements, which should
only when adequate dietary supple-
n is not practical, the possibility of
vel lesions (obstruction, hemor-
d perforation) should be kept in
rgery for these lesions has fre-
een required and deaths have oc-
iscontinue enteric-coated potas-
plements immediately if abdominal
ention, nausea, vomiting, or gastro-
bleeding occur.

caution in pregnant patients, since
may cross the placental barrier and
eactions which may occur in the
ombocytopenia, hyperbilirubinemia,
rbohydrate metabolism, etc.) are
problems in the newborn.

ns: Antihypertensive therapy with
should always be initiated cau-
postsympathectomy patients and
s receiving ganglionic blocking
other potent antihypertensive drugs,
Reduce dosage of concomitant
tensive agents by at least one-half.
es, narcotics or alcohol may po-
ypotension. Because of the possi-
rogression of renal damage, peri-
rmination of the BUN is indicated.
ue if the BUN rises or liver dysfunc-
gravated. Hepatic coma may be
ed.

e imbalance, sodium and/or potas-
etion may occur. If potassium deple-
d occur during therapy, Hygroton
discontinued and potassium sup-
given, provided the patient does
marked oliguria.

cial care in cirrhosis or severe
heart disease and in patients re-
rticosteroids, ACTH, or digitalis.
ction is not recommended.

eactions: Nausea, gastric irritation,
anorexia, constipation and cramp-
ness, weakness, restlessness, hy-
nia, hyperuricemia, headache, mus-
s, orthostatic hypotension, aplastic
eukopenia, thrombocytopenia,
ytosis, impotence, dysuria, transient
kin rashes, urticaria, purpura, nec-
ngiitis, acute gout, and pancreatitis
gastric pain or unexplained G.I.
develop after prolonged adminis-
her reactions reported with this
ompounds include: jaundice, xan-
aresthesia, and photosensitization.

osage: One tablet with breakfast
very other day.

y: White, single-scored tablets of
d aqua tablets of 50 mg., in bot-
and 1000. (B)46-230-D

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g information.

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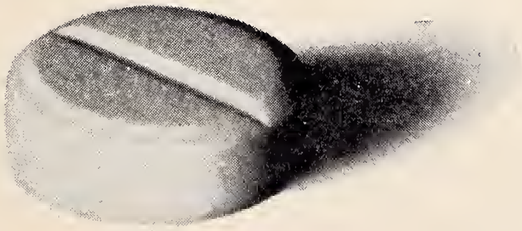
Here's the Hygroton® they don't have to halve

New Hygroton 50 mg. from Geigy

to go with the Hygroton 100 mg. you know



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The relief received from the first Trocinate 400 mg. tablet is so prompt that the discomfort of diarrhea ceases to be a bother. May be repeated every four hours.

Upon request, a supply of Trocinate 400 mg. with literature will be sent to physicians for their personal use.

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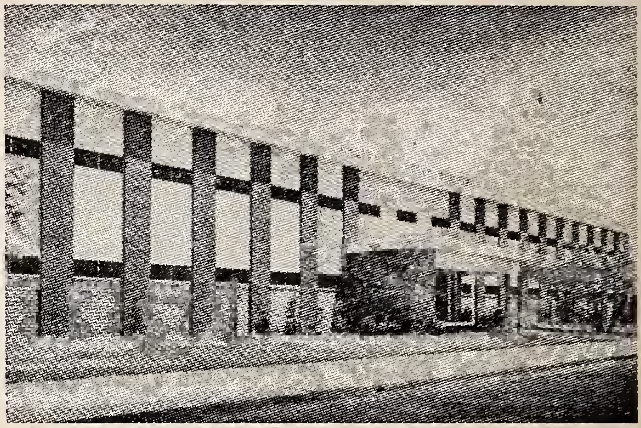

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A breakthrough in the control of pain

Talwin®

brand of
pentazocine
(as lactate)

a potent injectable non-narcotic— may be used in place of morphine and other narcotic analgesics

A breakthroug
in the control
of pain

Talwin®

brand of
pentazocine
(as lactate)

**a potent injectable non-narcotic—
may be used in place of morphine
and other narcotic analgesics**

Talwin 30 mg. relieves pain usually as quickly and effectively as morphine 10 mg.*

whatever the intensity of the pain

whatever the cause of the pain

whatever the site[†] of the pain

whatever the chronicity of the pain

whatever the age[††] of the patient

without the liability of narcotics

without the development of tolerance on prolonged use

with less risk of severe respiratory depression than with morphine

with less constipation

with less urinary retention

Clinical experience of more than 150 investigato
with over 12,000 patients given varying dosages
Talwin shows that this potent injectable analges
is not a narcotic.

Talwin has less risk of severe respiratory depre
sion, urinary retention, and constipation than mc
phine—a great boon for postsurgical patients.

Talwin produces less nausea, vomiting and di
phoresis than meperidine.

Constipation and urinary retention are seldom
problem with Talwin.

Very rarely do hallucinations or disorientation c
cur (0.1% each).

No significant hepatic, renal, hematopoietic or ne
rologic disturbances have been reported.

Talwin is well tolerated even by the aged or very
patients.

Used during active labor, its tolerance by tl
mother and newborn is comparable to mepe
dine's. As with all new drugs, Talwin should be us
with caution in pregnant women and in women c
livering premature infants.

Tolerance to the analgesic effect of Talwin has r
developed with prolonged use.

Talwin gives significant relief of pain in from 15
20 minutes following I.M. or S.C. injection.

Talwin relieves pain usually for 3 hours or long
with a single injection; however, the duration m
sometimes be less than with morphine.

86 per cent of medical and surgical patients obtained excellent to good relief with Talwin 30 mg. administered parenterally

---

*Its duration of action may sometimes be less than that of morphine.

[†]Should not be used for patients with increased intracranial pressure, head injury or pathologic brain conditions.

[††]Until sufficient experience is gained, Talwin should not be administered to children under 12 years of

ʼalwin

ʼand of pentazocine (as lactate)

ısed for pain of all types

ʼalwin has a wide range of sefulness in surgery

pes of surgical use	Number of patients	Efficacy				
		% Exc.	% Good	Exc. + Good	% Fair	% Poor
ʼreoperative	118	31	52	83%	15	2
ʼostoperative	914	58	28	86%	8	6
ʼre- and postoperative	12	75	17	92%	0	8
ʼinor surgery	33	30	39	69%	0	31*
raumatic	14	64	29	93%	7	0
ental	33	67	24	91%	3	6

Total patients............1124

ficacy of 30 mg. Talwin I.M. and S.C. as related types of surgical use in a cooperative study

a in files of Department of Medical Research, Winthrop Laboratories.

gh incidence of poor results in minor surgery is due primarily to one dy involving change of burn dressings in children; 9 of 19 patients obned poor results with dose used.

alwin relieves all types f pain in acute and hronic medical disorders

e of medical pain	Number of patients	Percentage of relief				
		Excellent	Good	Exc. + Good	Fair	Poor
alignancy, pain in	161	44	37	81%	8	11
rthopedic; see also "Arthritis"	111	53	38	91%	5	4
ardiovascular pain; see also "Miscellaneous medical"	96	59	27	86%	6	7
enitourinary pain	83	42	33	75%	16	10
thritis	76	33	51	84%	12	4
ynecologic pain	35	57	34	91%	6	3
ephalalgia	21	45	41	86%	9	5
astrointestinal pain	19	89	5	94%	0	5
hest, including • Pleurisy • Pulmonary embolism and infarct • Lung abscess	12	83	17	100%	0	0
iscellaneous medical, including • Peripheral vascular disease • Thrombophlebitis • Cervical root pain • Facial neuralgia • Syringomyelia • Burns	108	50	39	89%	9	2

Total patients............722

ficacy of 30 mg. Talwin I.M. and S.C. as related types of medical pain in a cooperative study

a in files of Department of Medical Research, Winthrop Laboratories.

e next page for additional product information

Talwin relieves pain as quickly as morphine

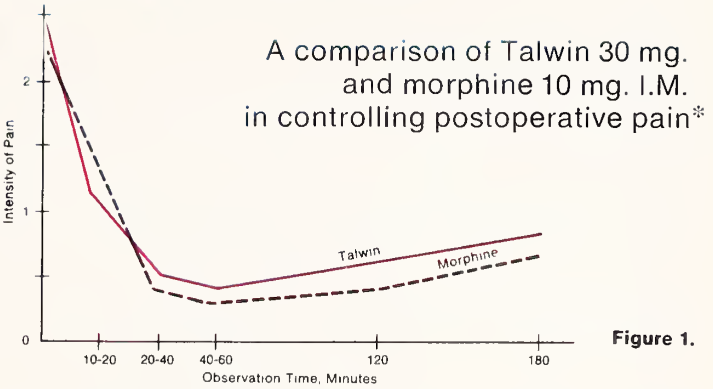


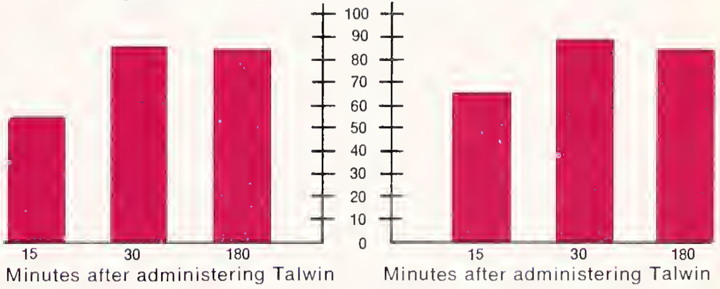
Figure 1.

Talwin 30 mg. proved equivalent to morphine 10 mg. in overall analgesic efficacy. During the early postmedication period (up to 40 minutes after drug injection), Talwin was superior in effect to morphine.

After observation periods ranging from 40 to 180 minutes there was no difference between the drugs in their effect on intensity. There were 141 and 119 complete patient records for Talwin and morphine, respectively, in this double-blind study. Other clinical investigators, studying duration, state that relief with Talwin may be obtained for up to three hours or longer, a period sometimes less than morphine's.

Talwin is as effective for severe pain (Fig. 2)† as for moderate pain (Fig. 3)†

Figure 2. **Figure 3.**



Per cent excellent to good relief of severe pain obtained with 30 mg. Talwin in 218 postoperative patients

Per cent excellent to good relief of moderate pain obtained with 30 mg. Talwin in 203 postoperative patients

Talwin does not require a narcotics prescription or narcotics records

The World Health Organization Expert Committee on Dependence-Producing Drugs concluded that "...there was no need at this time for narcotics control of pentazocine [Talwin] internationally or nationally."‡

---

*Storer, E. H.: Data in the files of the Sterling-Winthrop Research Institute.

†Cooperative study, data in the files of the Department of Medical Research, Winthrop Laboratories.

‡*World Health Organization Technical Report Series*, No. 343, 1966, p. 6.

A breakthrough in the control of pain

Talwin®

brand of
# pentazocine
(as lactate)

a potent injectable non-narcotic— may be used in place of morphine and other narcotic analgesics

Contraindications: *Increased Intracranial Pressure, Head Injury, or Pathologic Brain Conditions in which clouding of sensorium is undesirable.* Talwin (brand of pentazocine) should not be administered in these cases, since drug-induced sedation, dizziness, nausea, or respiratory depression could be misleading.

Precautions: *Pregnancy.* No teratogenic or embryotoxic effects attributable to the use of Talwin have been seen in extensive reproductive studies in animals; however, like all new drugs, Talwin should be given with caution to pregnant women. A large number of patients in labor have received the drug with no adverse reactions other than those that occur with commonly used strong analgesics. However, as with other strong analgesics, Talwin should be used with caution in women delivering premature infants.

Ambulatory Patients. Since sedation, dizziness, and occasional euphoria have been noted, ambulatory patients should be warned not to operate machinery, drive cars, or unnecessarily expose themselves to hazards.

Certain Respiratory Conditions. The possibility that Talwin (brand of pentazocine) may cause respiratory depression should be considered in treatment of patients with bronchial asthma. Talwin should be administered only with caution and in low dosage to patients with respiratory depression (e.g., from other medication, uremia, or severe infection), obstructive respiratory conditions, or cyanosis.

Patients Dependent on Narcotics. Because Talwin is a narcotic-antagonist, patients dependent on narcotics and receiving Talwin may occasionally experience certain withdrawal symptoms. Talwin should be given with special caution to such patients. It has been observed that some patients previously given narcotic-analgesics for one month or longer had mild withdrawal symptoms when the drug was replaced with the analgesic, Talwin. After a short period of adjustment the subjects were usually able and willing to continue taking Talwin, and relief of pain was satisfactory.

Nonaddicted Patients Receiving Narcotics. Symptoms believed to be indicative of antagonism to the opiate may be observed rarely with administration of Talwin to patients receiving opiates for a short time. Intolerance or untoward reactions are seldom observed after administration of Talwin to patients who have received single doses or who have had limited exposure to narcotics.

Impaired Renal or Hepatic Function. Although laboratory tests have not indicated that Talwin (brand of pentazocine) causes or increases renal or hepatic impairment, the drug should be administered with caution to patients with such impairment. Extensive liver disease appears to predispose to greater side effects (e.g., marked apprehension, anxiety, dizziness, sleepiness) from the usual clinical dose, and may be the result of decreased metabolism of the drug by the liver.

Myocardial Infarction. As with all drugs, Talwin (brand of pentazocine) should be used with caution in patients with myocardial infarction who have nausea or vomiting.

Biliary Surgery. Until further experience is gained with the effects of Talwin on the sphincter of Oddi, the drug should be used with caution in patients about to undergo surgery of the biliary tract.

Adverse Effects: Talwin is relatively free from the undesirable sid effects associated with morphine, such as constipation, urinary reter tion, or severe respiratory depression. Furthermore, Talwin produce less nausea, vomiting, and diaphoresis than meperidine.

In over 12,000 patients who received Talwin intramuscularly, subcuta neously, or intravenously, nausea, the most frequent adverse effec occurred in approximately 5.0 per cent. In decreasing order of oc currence were vertigo, dizziness or lightheadedness; vomiting; an euphoria. Respiratory depression was reported as an adverse reactio in 1.0 per cent.

The incidence of each of the other adverse effects was well belo 1.0 per cent: constipation, circulatory depression, diaphoresis, urinar retention, alteration in mood (nervousness, apprehension, depressio floating feeling), hypertension, sting on injection, headache, di mouth, flushed skin including plethora, altered uterine contractior during labor, dermatitis including pruritus, dreams, paresthesia, an dyspnea occurred rarely after administration of Talwin (brand of per tazocine). Furthermore, each of the following adverse reactions oc curred in less than 0.1 per cent: tachycardia, visual disturbanc (blurred vision, diplopia and nystagmus), hallucinations, disorienta tion, weakness or faintness, muscle tremor, chills, allergic reactior including edema of the face, taste alteration, insomnia, diarrhe cramps, and miosis; laryngospasm in one patient.

Talwin has not produced severe respiratory embarrassment in adul (never apnea), even with large amounts. A small number of newbor infants whose mothers received Talwin during labor had transier apnea. The incidence of temporary diminution in the rate or streng of uterine contractions is low after administration of Talwin, simila to that following meperidine hydrochloride. (In reporting no interfe ence with normal labor in patients receiving Talwin, one investigat further stated that the drug may increase uterine activity.) Generall no significant fetal heart rate change occurs.

Laboratory tests of blood and of liver and kidney functions have re vealed no significant abnormalities. A minimum and probably insignif cant increase in the per cent of eosinophils in peripheral bloc counts and bone marrow occurred occasionally.

Talwin is well tolerated by patients with diabetes mellitus, and r changes in insulin requirements have been observed.

Dosage and Administration: *Adults, Excluding Patients in Labor.* Ave age recommended single parenteral dose is 30 mg., by intramuscula subcutaneous, or intravenous route; may be repeated every three four hours. Pain has been relieved in most patients with not mo than three doses daily. Infrequently, selected patients have receive single doses as high as 60 mg.

Patients in Labor. A single, intramuscular 30 mg. dose has been mo commonly administered. An intravenous 20 mg. dose has given ad quate pain relief to some patients in labor when contractions becom regular, and this dose may be given two or three times at two-three-hour intervals, as needed.

Children Under 12 Years of Age. Since clinical experience in childre under twelve years of age is limited, the use of Talwin (brand of pe tazocine) in this age group is not recommended.

Duration of Therapy. Patients with chronic pain who received Talw for prolonged periods (e.g., over 300 days) experienced no wit drawal symptoms even when administration was stopped abrupt furthermore, there was no tolerance to the analgesic effect.

CAUTION. Talwin should not be mixed in the same syringe with sc uble barbiturates because precipitation will occur.

Treatment of Overdosage or Respiratory Depression. Talwin has n produced apnea or severe respiratory embarrassment in adults, eve in large doses. Occasionally, however, moderate respiratory depre sion may occur. Means of maintaining proper oxygenation should b available in case of overdosage or respiratory depression, and methy phenidate (Ritalin®) should be administered parenterally. The usu narcotic-antagonists, such as nalorphine, are not effective respirato stimulants for depression due to Talwin.

How Supplied: Ampuls of 1 ml., containing Talwin® (pentazocine) lactate equivalent to 30 mg. base and 2.8 mg. sodium chloride, Water for Injection. **Boxes of 10, 25, and 100.**

Multiple dose vials of 10 ml., each 1 ml. containing Talwin® (pentaz cine) as lactate equivalent to 30 mg. base, 2 mg. acetone sodiu bisulfite, 1.5 mg. sodium chloride, and 1 mg. methylparaben as pr servative, in Water for Injection. **Boxes of 1.**

The pH of Talwin solutions is adjusted between 4 and 5 with lac acid and sodium hydroxide.

Winthrop

Winthrop Laboratories, New York, N.Y. 10016

PRINTED IN U.S.A. ISSUED AUGUST, 1967

Don't let monilia cut broad-spectrum therapy short...

start with Tetrex-F®

tetracycline phosphate complex-nystatin

Use of broad-spectrum antibiotics can cause fungal overgrowth in the alimentary tract... and give rise to symptoms so troublesome that therapy must be prematurely stopped. Tetrex-F (tetracycline phosphate complex-nystatin) helps you circumvent this problem.

The nystatin can prevent overgrowth of monilia; the phosphate complex delivers tetracycline to the blood rapidly. Side effects are infrequent.

High-Risk Patients

Tetrex-F (tetracycline phosphate complex-nystatin) is especially useful in patients most susceptible to fungal overgrowth during tetracycline therapy: (1) the elderly or debilitated, (2) young children, (3) the diabetic, (4) those on long-term tetracycline therapy, (5) those on steroid therapy, (6) those who have had moniliasis before, and (7) pregnant patients with a history of monilial vaginitis.

When you start with economical Tetrex-F (tetracycline phosphate complex-nystatin), you can complete the full course of broad-spectrum therapy with less chance of losing control elsewhere. A good start for a healthy finish.

PRESCRIBING INFORMATION. For complete information consult Official Package Circular. *Indications:* Infections of respiratory, gastrointestinal and genitourinary tracts and skin and soft tissues due to tetracycline-sensitive organisms, in patients with increased susceptibility to monilial infections. *Contraindications:* The drug is contraindicated in patients hypersensitive to its components. *Warnings:* Photodynamic reactions have been produced by tetracyclines. Natural and artificial sunlight should be avoided during therapy. Stop treatment if skin discomfort occurs. With renal impairment, systemic accumulation and hepatotoxicity may occur. In this situation, lower doses should be used. Tooth staining and enamel hypoplasia may be induced during tooth development (last trimester of pregnancy, neonatal period and childhood). *Precautions:* Bacterial superinfections may occur. Infants may develop increased intracranial pressure with bulging fontanels. In gonorrheal therapy, serologic tests for syphilis should be conducted initially and monthly for 3 months. *Adverse Reactions:* Glossitis, stomatitis, nausea, diarrhea, flatulence, proctitis, vaginitis, dermatitis, and allergic reactions may occur. *Usual Adult Dosage:* 1 capsule q.i.d. Continue for 10 days in Beta-hemolytic streptococcal infections. Administer one hour before or two hours after meals. *Supplied:* Capsules, bottles of 16 and 100. Each capsule contains tetracycline phosphate complex equivalent to 250 mg. tetracycline HCl activity and 250,000 units of nystatin. For Oral Suspension, 125 mg. tetracycline and 125,000 u. nystatin/5 ml., 60 ml. bottles.

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Division of Bristol-Myers Company
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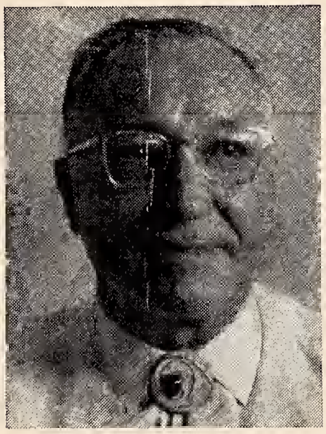
tear, moisten, compare—that's all!

Narcotic Addiction of the Newborn

One of the few situations in narcotic addiction where a high index of suspicion and prompt recognition may well be lifesaving.



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NARCOTIC addiction is yet one of the most serious problems of our times. As practicing physicians and nurses we rarely come into direct contact with the many facets that narcotic addiction present. Those of us that sojourn in the proximity of our southwestern borders should be aware of the one curable form of addiction — narcotic addiction of the newborn. We should also remember that mortality rates, in the past, have been reported as high as 93% in untreated infants and 34% in treated infants. More recent reports are more optimistic but neonatal addiction still carries a 9% mortality for treated symptomatic infants.[1]

The increase in addiction and the difficulties in the discovery and handling of the pregnant addict[8] make it important that physicians and nurses familiarize themselves with the significant clues. Frequently these women arrive at the hospital in active labor. The majority do not give a history of narcotic usage. Suspicion should be aroused: if usual analgesics do not give relief of pain; multiple needle tracts over anticubital region, hands, arms, feet, popliteal fossa, and the external jugular veins (tatoos may hide marks); complicating diseases from contaminated needles

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(malaria, hepatitis, & multiple abscesses); mothers desiring to sign themselves out of the hospital shortly after delivery, often leaving their infants.[10, 13] Within twenty-four hours post-partum the addicted mother may show withdrawal symptoms: abdominal pains, sweats, yawning, blinking of eyes, joint pains, etc. . . .[8] Police records may assist in the discovery of some cases. A high index of suspicion will aid in the early recognition and treatment of withdrawal symptoms in the neonate.

The opium poppy and its use by man has roots that go deep into our early history. References have been found in early hieroglyphics. Opium smoking in China and opium eating in India date from time immemorial but these methods of use are the least addicting.

Addiction became a problem with the discovery of the alkaloid morphine in Germany (1806). During the past twenty years Heroin (Diacetylmorphine) has been the most common offender. Many times it is used in combination with other drugs such as marijuana, opiates, barbiturates, tranquilizers, and the methamphetamins.[2, 6] In past years many morphine addicts resulted iatrogenically. However, heroin is outlawed entirely in this country. In 90% of heroin addicts the use of marijuana precedes the use of heroin.[4] One case of neonatal addiction codeine, (mother had breast cancer), and one infant addicted to Demerol (Meperidine), (mother had regional enteritis and ulcerative colitis), have been reported.[3, 5]

Cobrink noted that the first reference that they could find to neonatal narcotic addiction was in 1875.[2] Now in 1966 we find the Commissioner of Hospitals of New York City stating that more than 300 infants born in the city's hospitals were diagnosed as suffering from neonatal addiction the previous year.[4] Interpolation of the total number of known addicts to these figures leads one to surmise that many infants are overlooked in New York City and all communities.

Clinically, neonatal addiction is not a problem of narcotic intoxication. Instead of narcosis withdrawal symptoms show predominantly excitement of the Central Nervous System. Little or no prenatal care results in low birth weight infants (mean 2600 grams), high risk babies which add to the problems of therapy.

Prevention of narcotic addiction of the newborn is most difficult.[5, 8] The pregnant addict is rarely seen more than once before delivery. Opinion differs as to the optimal time that narcotic withdrawal should be attempted. After three to seven months it is not advisable.[2] Many have reported violent kicking before mother required an opiate.[1, 14] Case No. 2 the mother stated, "When I felt sick, the baby gave me a hard time. . . . When I got a fix, the baby got quiet. . . . This began about six or seven months."

Withdrawal symptoms may develop immediately, most commonly during the first twenty-four hours, or any time during the first four days. In general, the mechanism of withdrawal differs from the adult since there is no psychic dependence. Physiologically it has been theorized the opiates upset autonomic homeostatic equilibria which results in a hyperreaction which requires additional opiates to preserve the quasi-equilibrium.[1, 15] The severity of the symptoms has been correlated with the amount of narcotic taken by the mother.[1, 16] A maternal dose of 12 mgs. of heroin daily is usually followed by moderate to severe withdrawal symptoms in the neonate; the exact amount taken is almost impossible to assess.

Clinical manifestations of withdrawal in the newborn are primarily in the Central Nervous System and the Gastrointestinal System.[1, 2] They may be outlined as follows: Tremors, irritability, high pitched shrill cry, hyperactivity, flushing (or plethora), abrasion of the skin, excess mucous, emesis, diarrhea, and fever . . . ; later and less frequent are, twitching, cyanosis, yawning, sneezing, depressed respiration, apnoea, nasal stuffiness, lacrimation, and hyperhidrosis; electrolyte imbalance, convulsions, R.D.S. (especially hyaline membrane), shock, exodus. . . . Mild symptoms may continue for three to six days without therapy. Severe symptoms may require six to eight weeks of treatment. Once started the severity of the symptoms may increase very rapidly.

In the Differential Diagnosis[1] all causes of neonatal seizures must be considered: tetany, meningitis, hypoglycemia, and intracranial hemorrhage in particular. . . . Infants expiring with narcotic withdrawal symptoms show no specific autopsy findings. Pneumonia, hyaline membrane, cerebral hemorrhage and congenital anomalies are the most frequent pathologic processes reported. Thin paper chromatography can identify narcotics.[6, 11, 12, 18] Blood and urine should be collected shortly after the infant's birth since narcotic metabolites disappear rapidly with the test usually negative in twenty-four hours. Infants born to an addict whose last fix was one week or more are usually asymptomatic.

Specific Therapy . . . Historically many forms of therapy have been attempted ranging from mother's milk to saturation with whiskey, opium smoke, sedatives, tranquilizers, and methadone.[1, 2, 7]

Paregoric (Camphorated opium tincture USP . . . 1 ml. of 4% = 4 mgm opium = 0.4 mgm morphine) has been used for over 70 years. The dosage is five drops every 3-4 hours increasing if necessary to six to eight drops. This is gradually reduced after 1-3 weeks for the next 23 to 45 days. Too rapid reduction may precipitate a recurrence of symptoms and necessitate a return to higher dosage. The principal side effects are obstipation and lethargy.[1, 2]

Chlorpromazine . . . Cobrink reported favorable use of the drug in 1959. There were no toxic manifestations yet effective and rapid control. The most effective therapy was with a combination of paregoric and chlorpromazine.[2] The dosage is 0.7 — 1.1 mgm/K every 6 hours, higher if necessary. The oral and IM dosages are the same, The latter is necessary if the infant has reached the stage of emesis. After two to three weeks the dosage is reduced by 0.2 mgm/K every 2-3 days over a period of 4-6 weeks. Too rapid or sudden reduction can bring a recurrence of symptoms. Neonatal addiction correlates with the low birth weight and the high risk infant. Many of these neonates expire with respiratory problems, especially hyaline membrane. Diamond in 1962 reported the successful use of chlorpromazine in the treatment of the Neonatal Idiopathic Respiratory Distress Syndrome.[9] He administered 1 ml. (2 mgm) every hour by nasogastric tube to infants with a retraction index of 8 until the retraction score was 0. Of 15 infants so treated 13 survived against a control group of 10 infants with only two survivals. Experimentally chlorpromazine protects against oxygen toxicity. It tends to lower temperature yet the reduction of respiratory rate and the disappearance of retractions allow the infants color and comfort to improve. One infant recently treated by this regime at Tucson Medical Center was given 264 mgm of chlorpromazine over 5½ days with no toxic effects, marked improvement, and recovery. Cook concluded that physical exhaustion may be the determining factor in the death of infants with idiopathic RSD.[17] In the treatment of the narcotic withdrawal symptoms of Case No. 1 the combination of paregoric and chlorpromazine was impressive in the speed of response and the ease of reduction of both drugs.

The sociologic problem is firmly entwined with the medical problem.[1, 2, 6, 8, 10] It is rare for the addicted mother to make permanent recovery. It is rare that change or control of the environment that brought about addiction of the mother is feasible. Thus it becomes necessary for hospitals to have available a trained social worker for case finding and follow-up, and to establish a policy to detain the addicted infant (hospital-physician-juvenile court). With Case No. 1 use was made of the "Underprotected Child Form" to report to the Probation Department of the Juvenile Court. Court Action placed the infant in the custody of the Department of Welfare.

Summary . . . The treatment and management of neonatal narcotic addiction may be classified as:

1. Anticipatory . . . High index of suspicion.
2. Control of Symptoms . . . Paregoric and Chlorpromazine.
3. Diet and Fluids . . . High Calorie.
4. Complications . . . Antibiotics, etc.
5. Sociologic . . .

Case No. 1 — Baby girl Y 2780 grams was born to a mother gravida 9 para 8. She had no prenatal care and gave a history of bleeding for three weeks during the sixth month. She had been on heroin for the past two years. Her previous child was five years old. She had been on "one packet" a day but had reduced it to one-half "packet" every three days for the last four months. Her last fix was about 48 hours before delivery. She had also been taking a sedative "Dolphine." This had been given to a pregnant friend by a doctor. Cramps started during the following nite. She went to the Pima County Hospital and was transferred to Tucson Medical Center for delivery about 7:00 a.m. On examination the infant appeared plethoric, hyperactive, with a high pitched cry. The remainder of the physical examination was within normal limits. At twenty hours the infant was quiet when not disturbed but the plethoric appearance persisted. If disturbed by handling or a loud noise, she would respond with a high pitched cry and several intention-like tremors, most marked in the upper extremities. There was some irritation of the skin of the nose, cheeks, chin and knees. By 30 hours there was increased agitation with marked erythema of the knees and face. The tip of the nose and chin were excoriated. Paregoric 5 drops every four hours was started. The hemoglobin was 20.5 grams and the hematocrit was 65. The remainder of the blood count, electrolytes and calcium were within the norm. She fed hungrily on an evaporated milk and karo formula. On the second post partum day she was still jittery. However, her cry was not as sustained as earlier. Dical D Capsule was given orally b.i.d. Syrup Chlorpromazine 1 ml. every 6 hours was added to the regime. On the third post partum day she was quiet, feeding well, and did not respond to sudden noise. She continued to feed and gain well. The plethora had disappeared and her skin healed by the fifth day. The paregoric was reduced by one drop/dose daily from the sixth to the tenth day when it was discontinued. The chlorpromazine was reduced as follows: 14 drops (q.i.d.) on the twelth day, 10 drops on the thirteenth day, five drops on the fourteenth day, and discontinued on the fifteenth day. By court order she was discharged to the Pima County Welfare Department on the twenty-second day. She weighed 3350 grams. Her hemoglobin was 16.1 grams and the hematocrit was 53. X-ray of the chest showed heart and lungs within the norm.

Case No. 2 – Baby girl R. was a 2800 gram product of a 29-year-old mother, gravida 8 para 7, A positive. She had no prenatal care. Arriving at the hospital in labor she volunteered the following information. She had been on heroin since a short time after her last delivery two years ago. During the last two months she had reduced her "drug" to once a day. Her last fix was the day before delivery. Shortly after birth the physical examination of the infant was within normal limits. She kept her lower extremeties flexed. Any attempt to extend the thighs would result in a stiffness of the cervical spine and a tight cry of about 10 seconds duration. Sudden noise or manipulation caused a mild tremor of the upper extremeties. She fed hungrily. The jitteriness, the flexion of the thighs, and the tight cry abated slowly by the fourth day. She was observed in the hospital through the fifth day. Although this infant showed only mild symptoms the mother stated that from the sixth or seventh month "when she felt sick the baby bothered her." A fix quieted both mother and child. Unlike the mother in Case No. 1 this woman did not have a police record. She was very sincere in her inquiries about the child. The hospital social worker and the welfare case worker felt she could be entrusted with the child under supervision.

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The Evolution of the Human Sector

Richard L. Durbin

In this age of multilateral influence on the operation of our health facilities, there is evidence that concern for power, politics and payments is displacing what should be a concern for the patient. It is time to restructure our operations with the human sector as the pinnacle of our concern.

ATTENDING a state hospital organization meeting not long ago, I found the organization and its objectives in a troubled state of flux. The leaders of this hospital organization did not deny the need for broadening its goals to include other health agencies, but they insisted on the retention of control by the hospitals. They seemed to be more concerned with political means as ends in themselves than in meeting meaningful human needs. They did not seem to be as interested in the goals and philosophies of the organization as they were in the political power structure.

The session to me again served to point up that the health industry, a multi-faceted industry, is somewhat at a loss to decide in what area it belongs — public or private —, or should we begin thinking of assigning it to a new sector which, for want of a better term, I call the human sector.

Early writers on democracy pointed out that the private sector is to add to the growth of a nation directly while the public sector is to accomplish the interests of the people in protecting themselves and their country. Recent legislation, and undoubtedly legislation in the future, treats health care as the right of each individual. It has made both the private and the public sectors responsible to see that health care is provided to all people.

Providing health care for all people requires the combined efforts of both sectors. The purpose is not merely profit or loss, or serving the public good, but embraces an objective overriding both sectors and gives rise to a new sector, the human sector.

With the increased need for providing this health care and the evolution of this human sector — relieving human suffering — both the recipients and the providers, it seems clear, must be awarded recognition.

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Presented at the 1966 Annual Meeting of the Arizona College of Surgeons.

On the side of the recipient, our objectives to relieve human suffering are clear: Quality of the service must be improved. On the side of the provider: His interest in self-improvement must be met if his output or productivity, based on quality, is to be encouraged. The more highly specialized the individual, the greater the need for an environment that encourages creativity. This environment is specifically freedom. A high degree of specialization and intellect require freedom to create and innovate. This calls for a flat organizational structure where democratic methods are employed in goal setting and decision making.

This is not true in organizations which employ the less specialized and less educated. These organizations still call for a triangular, hierarchical type of organization with a strong authoritative individual at the top, one with charisma and a little bit of showmanship in him. The types of organizational structure will be determined by the individuals in the various activities of the organization. One pattern of organizational design and one administrative concept will not work for an organization, nor can a pattern be adopted that can be readily imposed on other similar organizations.

Different periods in the evolution of the organization will require different organizational structures. For example, the new or rapidly changing organization will require a strong leader who possesses certain mysterious qualifications to lead or motivate the organization and its subordinates through changing times. The organization that has proved itself over the years will need the coordinator, acting as a catalyst to motivate subordinates. The exact type of leadership needed will depend on the steepness of the organizational structure, the type of relationship between the subordinates and a superordinate and the amount of freedom needed to do the work.

Private industry in the past with its profit-making motives had to rely on the steep hierarchical chain of command. The drive for profits and the fierce competition demanded a strict hierarchy with a strong leader at the top. The leader relied upon his knowledge of all the company activities, his personal charismatic qualities, and a certain amount of dramaturgy to remain at the top. In the highly competitive business world, the goal was to produce the same product at a lower cost. Some industries, including the textile industry, found that they could only reach a lower cost by not including depreciation, research and development in the cost. Therefore, the fierce competition theory did not allow for replacement of plant or for research and development in the product areas. The corporate bodies then looked for ways of getting an edge on the market, either by control of raw materials or by patent advantages. This desire was directly against the public good and the federal government through the Sherman Anti-trust laws acted to disallow this type of behaviour by Big Business.

So, the fierce competition was not too productive to the corporation and the monopoly was illegal. American ingenuity being what it has always been gave rise to the oligopolies.

The McGraw-Hill Dictionary of Modern Economics gives the following definition of oliogopoly:

"A type of market structure in which a small number of firms supply the major portion of an industry's output. The best known examples in the U. S. economy are the automobile industry in which three firms account for 92% of the output of passenger cars; the gypsum industry in which four firms supply 90% of the industry's output; and the aluminum industry in which three firms provide nearly all the supply of aluminum ingots."

The definition and description goes on to explain competition — "prices in oligopolistic industries generally fluctuate less widely than those in more competitive industries; each seller hesitates to lower prices because he knows that his few competitors will immediately match the cuts, leaving him with essentially the same share of the total market and lower profits. Nevertheless, other forms of competition, such as styling, quality, new features, marketing and advertising, may be very keen." In this last sentence comes the focus on the role of the specialist who creates change and makes product innovation. He must be allowed the organizational freedom, and these modern organizations today must seek out these specialists, attract them to the organization, and keep them actively interested in their specialization. The specialist in today's world, particularly in the health industry, has at times been forced to leave his specialty and go into management and the hierarchical chain of command in order to be recognized status-wise and salary-wise, and to have his ideas accepted. The form of management today then has not changed from the old hierarchical system where the charisma and the right to decision-making persists. There appears to be a large and ever-increasing distance between the manager's right to decide, which is defined by Fayol and others as authority, and the power to decide, which is a specialized ability. The distance between authority, or right to decide, and power, or ability to decide, is growing. It probably is due to increasing technological advances which result in specialization. This increased knowledge expansion is occurring at a much faster rate than changes in the cultural definition of hierarchical roles. What appears to have happened is that specialists in organization have had to compete with the subordinates in the management pyramid and this new group of specialists, highly skilled, with ability, have been thrown into organization on the old structure and forced to compete in the scalar chain. A good example of this is the bedside nurse who could become a true nurse specialist but, for pay purposes, status, and prestige, must join the competition in the superordinate-subordinate structure in order to survive. Again, ability is not recognized and the old-fashioned "master-servant" relationship does not give way to the specialist. This situation produces strain and tensions and may be affecting the productivity of the enterprise. Probably today the most obvious result of specialization in modern bureaucracy is the imbalance between ability and authority.

In the health industry the specialist is evolving at a rapid rate. The administrator not equipped to handle the specialists organizationally, will soon find a shortage of specialists. However, before organizational change is attempted, some method must be developed to measure the results of change, whether it is goods or services. In the health industry the quality of the service must be measured. To measure the quality, specialists need to identify quantitatively their expectations, and they must develop measurable indices to do this. By measuring their observations and comparing them with their expectations, they can discover their degree of success or failure. Any changes in organizational structure will not be haphazard, then, but will follow a rational change in direction.

It follows that an organization which employs a large proportion of specialists will have a flat structure. The more training a specialist has, the greater will be his need for freedom. The leader in this instance will be a coordinator. Departments with less highly specialized employees will still need the pyramidal structure with the charismatic leader.

Pay scales for the specialist will need to be in the form of ranges, and reward will come almost automatically. In the less technical areas of activity, pay raises can be based on performance review and rating. The hospital administrator's role will be to serve as a coordinator of committee activity, recognizing his own and the medical staff's ability in specialty areas. The freedom and expression of a voluntary medical staff can best be served by the development of strong line operational committees where the specialists are recognized as peer member committee evaluators. Nursing, as specialties evolve, will also find committee organizations preferable to the monastic structure typified by a strong director of nursing, supervisors, and head nurses positions. Laboratory and x-ray will also be best served by other than the pyramid type departmentalization. These will evolve into more democratic structures as technological advances create more specialization. Housekeeping and dietary are best served by the pyramidal and charismatic forms of organization, but as their knowledge and technology evolve, this too will change. Volunteer groups, such as auxiliaries, will probably do best with an organization which will allow the leader to appear as the need is created, such as chairmen for special events. This discourages organized positions that sometimes take much effort to find work for.

This has been an attempt to point out changes in the health field brought about by legislation, increased technology, specialization, and changing times. It is a plea to re-examine the sector to which the health industry belongs and to examine organized structuring that should take place with change. Today's administrator must examine historically and realistically the entire organization, recognizing the leader and the individuals, knowing that there are many forms of organization, and each must have its own structure to meet its needs. No one pattern or mold can serve every organization. Different types of organizational structures will evolve in time within one organization. The degree of growth of the organization is important. Whether it is new, stable, or in danger will influence structure. Whether it is democratic, laissez faire, or autocratic, it must serve its members. Whether it is line committees, Fayol's Bridge, the coordinator, the hierarchy, Manitou, charisma, or dramaturgy, these are only means to organizational ends. The ends must be interpreted by the administrator and be translated into workable means through organizational structure.

The goals of the individuals in organization must be enhanced. "Paraphrasing Adam Smith, we can say that every non-profit organization concerned with the economic environment of its participating members has as one of its primary objectives the enhancement of their personal gain."[1]

Why do we need a human sector instead of non-profit? "Many engage in activities of a charitable or eleemosynary nature which clearly fall outside the province of the profit-seeking sector. There is a tradition in Western Civilization that is rooted in the Judeo-Christian belief that the more fortunate should help to care for their less fortunate brothers. Many non-profit institutions are rooted in this ethos, and colonial and later state legislatures were therefore willing to charter charitable organizations.

"The long standing, general disposition to restrict the growth of government reinforced the inclination of citizen groups to join together on a voluntary basis to further important communal ends. There is a mutuality between a position which holds that government should not grow unless there is an absolute necessity and the position which sees many virtues in the voluntary association of citizens to accomplish important charitable and social objectives."[2]

The non-profit sector, hospitals particularly, but its related health institutions too, should be dedicated to the ethos of helping their less fortunate brothers. Unfortunately, this has not been overwhelmingly successful. Large sections of the population are getting short-changed in their health care, or are being completely overlooked.[3] Competing systems in the same industry frequently lead to waste. Government, private and non-profit in one major industry lead to duplication of efforts and facilities. Duplication of packaging brings up many questions on quality. People ask, "What's in that package?" and wonder if it's the same under different labels.

Is the care the same in a county hospital as in a private hospital? Is it the same in a university hospital as it is in a proprietary hospital? If so, why the difference in price? The public is confused.

The government hospitals, the non-profit hospitals, and the proprietary hospitals, as well as the concomitant universities should be combined in the human sector. If health is a right, it should not be bandied around. It should be regulated on ability and not on politics. The administrator must become devoted, not to the organization, but to the ideal he would like it to become.

SUMMARY

1. Health care is the responsibility of both public and private resources.
2. The aim is the betterment of the individual—both provider and consumer.
3. With the ever increasing specialties, each specialist wants freedom to develop his ideas. Also, he wants responsibility and authority.
4. A flat structure, not pyramidal, is the only way to make this work—the leader has to be a coordinator.
5. The less the degree of specialization, the more charismatic the leader needs to be.
6. This discussion is basically an appeal for re-examination of goals and development of the "human sector", along with the belief that organization has to be diversified according to the specific needs.

The human sector is the culmination of all the arts and sciences of health knowledge to the relief of human suffering.

This is an appeal to remove the political and conflicting activities of all sectors, private, non-profit, and government in regard to health and directing the effort of each of these sectors to a combined effort in the human sector. This evolution would be the basis for a partnership in health.

The space program has successfully accomplished this in coordinating the efforts of the three sectors in an attempt to reach the moon.

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1. "Pluralistic Economy," Eli Ginsberg.
2. ibid.
3. See "America's Unhealthy Children," Harper's Magazine, May 1966.

Gall Bladder Surgery in the Small Hospital

C. Herbert Fredell, M.D.

During the ten-year period 1956-1966, 410 operations were performed on the biliary tract at the Flagstaff Hospital and Western Navajo Hospital. The death rate following cholecystectomy was 0.38% and was 1.7% after cholecystectomy and choledochotomy. Wound infection was the most common non-fatal complication. The author concludes that "acceptable" results may be obtained following surgery on the biliary tract in a small hospital as well as a large one.

SINCE 1882, when Carl Langenbruch reported the first successful removal of a diseased gall bladder,[12] there have been many surgical experiences recorded in the literature dealing with gall bladder surgery. Most of the reports in recent years have arisen from the large hospitals and have been mainly composite experiences of several surgeons.

In recent years there has been a growing trend for the young trained surgeon to establish his practice in the smaller community and to practice surgery in the small hospital. When the surgeon practices in a small hospital he will usually find many of his circumstances to vary somewhat from what he was accustomed to while working in a large hospital. It should also be stated that there is a great similarity in most hospitals, whether they are large or small.

If one were to scan the surgical literature one finds very few reports of surgeons in small hospitals who have established standards and precedents within that particular situation. Hopefully, the surgical standards within every hospital, large or small, would be of a high degree and very similar one to another.

Variation in practice situations at times produces variation in the results of therapy. In the midst of the variations it is hoped that the

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surgeon will be able to accomplish the same degree of good practice that his colleague in other institutions can more easily attain.

It may seem to be a glimpse of the obvious to discuss some of the variations the surgeon will find in the small hospital that will influence his practice in that hospital, yet one must consider the following factors in most of the small hospitals and in some of the larger ones as well.

Within the average small hospital one finds the geographic locations of certain work areas less than ideal. The operating room suite is not always well enough lighted or ventilated. It is located where isolation of the environment from the other hospital milieu is not possible. Traffic control in the operating room area as well as patient care areas is often a problem. Infection prophylaxis, housekeeping procedures, modern equipment, isolation procedures and practices, and education of hospital personnel concerning cross contamination, must all come under the scrutiny of the surgeon. The cost of infection control in a hospital may strain the already burdened budget that the average small hospital bears.

Within the average small hospital the surgeon will find limitations as to number and variety of equipment and instruments, particularly if they are expensive to purchase. The surgeon will many times "make do" with what is available. Good craftsmanship, however, requires proper equipment for the particular job to be done. The adaptability that the surgeon must have will be one of his cardinal virtues within the small hospital.

The availability of ancillary services varies somewhat with each small hospital. Laboratory facilities, radiological services, pathological services, and anesthesia services will not always be easily available or consistently satisfying to the surgeon who must rely upon them frequently.

Members of the surgeons' operating team often will be partially trained physicans who might require time, spent by the surgeon, in helping them become better surgical assistants. Within the operating room of the average small hospital the surgeon must be ever alert to the activities of the anesthetist, the surgical technician, and the surgical assistant during the operative procedure. His responsibility for all that transpires with the operating room in the small hospital is often more acutely felt than when he is surrounded by the personnel one finds in the operating room of the larger hospital.

Few small hospitals have a recovery room or intensive care unit. The patient usually is moved from the operating room directly to his room on the floor of the hospital. The floor of the hospital often contains a variety of medical as well as surgical problems. The nursing care therefore is often a mixed affair with a variety of competence that the surgeon must be alert to recognize. The surgeon must be very explicit in his orders. He must be a frequent visitor to his patient and to that patient's nurse. He must be willing to function at several levels of care for his patient. This requires more time in the day-today postoperative care of the patient. Often the small hospital does not have a house staff of physicians to care for some of the "chores." The practicing surgeon must maintain good records and be willing to work actively with the administration to make his small hospital a better place in which to care for all types of patients.

In an attempt to discover differences and similarities in the surgical practice and its results in the small hospital, as contrasted to the larger hospital, a review of a ten-year experience with gall bladder surgery in a small hospital situation was done.

This study is derived from the personal experience of the author in the Flagstaff Hospital, Flagstaff, Arizona, and from the Western Navajo Hospital, Tuba City, Arizona. It covers a period of 8-1-56 to 8-66 in the Flagstaff Hospital, and from 4-1-57 to 4-1-59 in the Western Navajo Hospital. Each of these hospitals were 50 beds in size during the period of this study. The Flagstaff Hospital is located in a relatively isolated community of 17,000 people and had a population increase to 25,000 during the period of the study. The Western Navajo Hospital is located on the western margin of the Navajo Indian Reservation in a village of a few hundred people.

It was not possible to do long term follow-up studies of these patients. Short term follow-up was attempted and was generally satisfactory. After a year or two, it was difficult to establish consistent follow-up. The increasingly transient nature of our population makes the follow-up phase of all diseases more difficult as the years pass.

Of the total 405 patients studied in this series there were 33 patients who were cared for at the Western Navajo Hospital. Within this small group of patients the author found some of the most challenging of the biliary tract problems. The Navajo Indian has a more advanced disease before he seeks help. The pathological anatomy seen at the time of surgery is often more advanced and technically more difficult to treat than other types of biliary tract problems. Common duct disease occurs more frequently and liver damage is more often present at the time of the gall bladder surgery.

In this series of 410 procedures the most common procedure performed was cholecystectomy. Incidental appendectomy was done when it was possible. Cholecystectomy with choledochotomy was the next most common procedure performed. (Table 1)

TABLE I
Gall Bladder Surgery in the Small Hospital
8-1-56 to 8-1-66
Procedures Performed

Cholecystostomy	18
Cholecystectomy	257
Cholecystectomy & Choledochotomy	112
Choledochotomy	16
Cholecysto-enterostomy	6
Choledocho-enterostomy	1
Total — Patients 405	Procedures 410

The postoperative diagnosis in the majority of the cases coincided with the preoperative diagnosis. Variations are apparent when one studies Table 2. Cholecystitis and cholelithiasis were the most common findings in this series of cases. When stones were not found at the time of surgery a search for associated diseases was made. There were few instances in which other organs were involved with problems to explain the patient's symptoms. When no other cause for the patients' complaints could be found, a cholyecystectomy or cholecystostomy was done. Very often the patient was dramatically improved postoperatively. The problem of the acalculous gall bladder and its relation to the patient with classical cholecystitis complaints remains an unsolved problem for the author. It is well known that the better postoperative results occur in the group of patients who have typical gall bladder complaints and who have calculi in the gall bladder rather than those without calculi in the gall bladder. A significant number of this latter group of patients, however, do have microscopic evidence of chronic cholecystitis.

Following surgery, the serious non-fatal complications have been tabulated. (Table 3) Minor immediate postoperative pulmonary atelectasis was not included in this tabulation. If it did not respond to therapy within 48 hours it was complications in the 257 patients who had cholecation. It is of note that there were 12 wound complications in the 257 patients who had cholecystectomy alone, while there was only one wound complication among the group of 112 patients having cholecystectomy and cholecystostomies. In spite of drainage of the peritoneal cavity in every case, there were four cases of deep intraperitoneal abscess, two of which required secondary drainage procedures.

Table II
Gall Bladder Surgery in the Small Hospital
8-1-56 to 8-1-66
Postoperative Diagnosis

Cholecystostomy	18
Chronic Cholecystitis with stones	7
Chronic Cholecystitis — no stones	4
Acute Cholecystitis with stones	2
Iatrogenic Trauma to gall bladder	1
Acute Pancreatitis	2
Cirrhosis of Liver	2
Cholecystectomy	257
Chronic Cholecystitis with stones	163
Chronic Cholecystitis — no stones	31
Acute Cholecystitis with stones	58
Acute Cholecystitis — no stones	4
Cystic Duct anomaly	1
Cholecystectomy & Choledochotomy	112
Chronic Cholecystitis with Cholelithiasis	103
(Common Duct Stones Found — 49)	
Acute Cholecystitis with Stones	6
(Common Duct Stones Found — 5)	
Chronic Pancreatitis	1
Stenosis of Sphincter of Oddi	2
Gall Bladder Surgery in the Small Hospital 8-1-56 to 8-1-66 **Postoperative Diagnosis**	
Choledochotomy	16
Choledocholithiasis	5
Chronic Pancreatitis	3
Stenosis of Sphincter of Oddi	2
Retained Cystic Duct Stump	2
Stricture of Common Duct	2
Operative Injury to Common Duct	1
Duodenal Diverticulectomy	1
Cholecystoenterostomy	6
Atresia of Common Duct	1
Divided Common Duct due to Blunt Abdominal Trauma	1
Inoperable Carcinoma of Pancreas	3
Postoperative Pancreatitis Following Gastric Resection	1
Choledocho-enterostomy	1
Choledochal Cystoenterostomy	1

Pulmonary complications have occurred with an acceptable low frequency. Judicious anesthetic management, early ambulation with deep breathing and coughing, and the frequent use of the intermittent positive pressure assisted breathing with medications have all contributed to this. Early vigorous treatment of atelectasis keeps this complication within the realm of a minor one.

Thrombophlebitis occurred in only one case. There were two cases of pulmonary infarction.

TABLE III
Gall Bladder Surgery in the Small Hospital
8-1-56 to 8-1-66
Serious Non Fatal Postoperative Complications
410 Procedures

Following Cholecystostomy		18
Wound Disruption	1	
Thrombophlebitis	1	
Premature Removal of Tube	1	
Following Cholecystectomy		257
Wound Infection	9	
Wound Hemorrhage	1	
Ventral Hernia	2	
Intraperitoneal Abscess	3	
Pulmonary Infarct	2	
Bronchopneumonia	1	
Cardiac Arrythmia	1	
Common Duct Stenosis due to Suture	1	
Biliary Fistula – 3 weeks	1	
Following Cholecystectomy & Choledochotomy		112
Wound Infection	1	
Intraperitoneal Abscess	1	
Cholangitis	1	
Retained or Overlooked Calculi	3	
Right Hepatic Artery Injury Repaired	1	
Serum Hepatitis 3 mos. postop.	1	
Following Choledochotomy		16
Hemorrhagic Pancreatitis	1	
Following Choledocho-enterostomy		1
Cholangitis		

Operative accidents occurred in two instances. In one the right hepatic artery was entered when the cystic artery was avulsed from its origin. Repair was done immediately without sequelae. In the second instance, a cystic artery suture was placed too close to the point where the cystic artery crossed the common duct producing postoperative common duct stenosis with jaundice, on the 9th day postoperatively. Reexploration with removal of the suture and insertion of a T tube was done with no further difficulty.

There were three cases of retained common duct calculi. One case was an intrahepatic calculus that could not be retrieved at the time of the choledochotomy. The other two were unsuspected until the postoperative cholangiogram on the 9th postoperative day. All of these cases had successful removal on the 10th postoperative day.

There were a total of 128 common duct explorations during the period of this study. 105 were done in conjunction with cholecystectomy. Common duct exploration alone was done in 16 cases. In this group of cases, five of the explorations were done for retained common duct stones. Two cases had common duct strictures and one case was done for iatrogenic injury to the common duct during surgery in the vicinity, in the presence of distorted anatomy.

In 13 cases of the 18 cases in which cholecystostomy was done, it was done for chronic cholecystitis with calculi. The danger of cholecystectomy was considered to be too great at the time of surgery. While this is not the ideal operation for chronic cholecystitis with cholelithiasis, it is often the operation of choice when the local anatomy or the general condition of the patient is such that it would be hazardous to proceed any further surgically.

Cholecystoenterostomy has been done in six cases of common duct obstruction. Four of these cases were pancreatic in origin. Fortunately there has been only one case of hemorrhagic pancreatitis following 129 common duct explorations where the common duct was explored, the pancreas mobilized and palpated, and the ampulla dilated.

Fatal postoperative complications have been summarized in Table 4. Following 257 cases of cholecystectomy there was one myocardial infarction and it proved to be the only fatality following that procedure. In the 112 cases of cystostomy tube the night following surgery there were two cases of advanced liver disease present at the time of the common duct surgery, which did not respond postoperatively but progressed to demise a few weeks postoperatively. Two similar cases occurred after a simple cholecystostomy. One of these removed his cholecystostomy tube the night following surgery and required operative reinsertion of the tube. One fatal complication followed a cholecystojejunostomy which was done eight days following a Bilroth II gastrectomy in which obstructive jaundice developed. The jaundice was due to extensive scarring and chronic pancreatitis due to the penetrating duodenal ulcer which overlay the common duct. After the bypass procedure, the patient developed multiple liver abscesses and died three weeks postoperatively.

TABLE IV
Gall Bladder Surgery in the Small Hospital
8-1-65 to 8-1-66
POSTOPERATIVE DEATHS

405 Patients		410 Procedures
Following Cholecystectomy		257
Myocardial Infarction	1	
Following Cholecystectomy & Choledochotomy		112
Progressive Liver Failure	2	
Pulmonary Embolus	1	
Following Cholecystostomy		18
Progressive Liver Failure	2	
Following Cholecysto-enterostomy		6
Liver Abscesses and Sepsis	1	

The management of patients who have proved or suspected biliary tract surgery might be summarized as follows:

After a careful history and physical examination the patient should have adequate cholecystograms. At times the double dose or successive days cholecystogram technique will be required to demonstrate disease in the gall bladder. If no calculi are demonstrated and the gall bladder functions well, a search is then made for other disease that might produce the symptomatology. If the patient continues to have a straightforward history and has disability from his complaints in spite of diet and medication, and all of the diagnostic measures have been taken, it then behooves the surgeon to explore the patient. After a thorough exploration of the abdominal contents has been done and no other cause for the patient's complaints has been found and the gall bladder appears to have any evidence of previous inflammation, even though calculi are not palpable, the gall bladder should be removed. In a significant number of these excised gall bladders there will be microscopic evidence of inflammation, and the patients who have had their gall bladder removed under these circumstances will be markedly improved. After the patient has convalesced from this surgical procedure, it is imperative that he be followed by the surgeon for a long enough time to document what was done as being specifically therapeutic for the patient's problem. There are instances when the surgeon has been so convinced that his treatment was correct that he failed to observe the obvious problem which emerged postoperatively and which was actually causing the problem.

If the patient has non-visualization of the gall bladder on two properly executed cholecystograms, or has calculi demonstrated on a cholecystogram, a cholecystectomy should be done at the earliest convenient time, providing the general condition of the patient permits this.

It is the author's feeling that the common duct should not be routinely explored and that specific indications, including the more liberal use of operative cholangiography, exist that permit an accurate decision in most cases.

If the common duct is explored, it should be routinely drained with a T tube or catheter and routine prophylactic antibiotics should be used following the insertion of the tube. Antibiotics should be utilized until a full day following removal of the tube and the routine tube cholangiogram.

The peritoneal cavity should be routinely drained in all cases of surgery of the gall bladder and common duct. The use of Penrose soft rubber drains in Morrison's pouch and the foramen of Winslow will save the surgeon many anxious moments and the patient unnecessary morbidity postoperatively.

Within the average small hospital operating room it is not an easy effort to routinely do cholangiograms on all patients having biliary tract surgery. It should be done when specifically indicated and proper preparations for such a procedure should be taken if there is any possibility that it would be required in a given case.

The decisions and management that a surgeon exercises in the care of a certain group of diseases will vary from one hospital or institution to another. Obviously any decision or order that is made on the basis of being "routine" has a certain hazard of being wrong in a specific instance. This must not be forgotten.

The experience with surgery of the gall bladder and common duct that is contained in this report is a single surgeon's experience in two small hospitals. The bulk of the work was done in a single hospital. It is presented with the hope that it might be of help to other surgeons in similar situations. Certain specific problems exist in the treatment of many types of diseases in the small hospital setting. Similarities to the large hospital scene are great.

Acceptable results and comparable postoperative complication rates can be achieved in the small hospital as well as the large one.

Discussion:

While reviewing the ten-year experience with gall bladder surgery in the small hospital the author also perused the pertinent literature concerning surgery of the gall bladder and common duct. Generous amounts of published information is available to the student of this subject. A few of these will be discussed.

The etiology of gall stones has interested investigators for many years. Thurborn[20] discussed the formation of gall stones in man and felt that biliary stasis even though temporary was one of the major mechanisms in the initiation of gall stones in humans. He compiled an excellent bibliography on this subject.

While the formation of gall stones continues to stimulate research there have been instances in which gall stones spontaneously disappeared. Macfarlane and Glenn[15] described it as an uncommon occurrence and caution that it is often an instance of the stone passing down the ducts into the intestine.

The incidence of gall bladder disease was studied by Metropolitan Life Insurance Company recently.[10] It was reported that the admissions to hospitals in the United States for gall bladder disease comprised 2.5 per 1,000 population. The death rate of gall bladder disease from 1952 to 1962 has fallen from 6.7% to 3.7%. It was also noted that very few deaths due to gall bladder disease occur under 35 years of age.

Weckesser[22] reported a combined experience of 30 hospitals in Ohio in which 3,085 operations upon the gall bladder were performed with a postoperative mortality rate of 1.2%. He noted only three deaths occurring under the age of 60 years. He quoted the U.S. Public Health Service as stating that the mortality has fallen appreciably in the past five years but that the morbidity rate remains high. He also noted that two-thirds of patients with gall bladder disease were treated surgically.

The treatment of cholelithiasis has prompted several good reports in recent years.[1, 2, 4, 6, 14] Colcock[2] noted that gall stones are second only to acute appendicitis as an indication for a laparotomy. He felt that the present surgical opinion was that the presence of gall stones was sufficient indication for the removal of the gall bladder. In the series of 1,756 patients he studied, he found that gall bladder disease was twice as frequent in women as men and that 94% of those patients had calculi present at the time of surgery. Cholecystectomy was the most common procedure performed.

Hinchley et al[11] reported their experience with acute cholecystitis and noted that prophylactic cholecystectomy during an asymptomatic period would obviate many biliary tract emergencies. Removal of the "silent" gall stone has stirred controversy in some medical circles, yet the majority of opinion now favors its removal as good practice at this time.

The acalculous gall bladder has remained an unsolved problem in the mind of several surgeons. There are times that its removal is specifically indicated, and at times it is removed unwisely. Dowdy[4] found a 4% incidence in his cases of chronic cholecystitis and 1.9% of acute cholecystitis. He had a 2.5% incidence of normal gall bladders removed that had the preoperative diagnosis of cholecystitis. Colcock[2] found an incidence of acalculous gall bladders to be 2.1% in chronic cholecystitis but a 6% incidence in acute cholecystitis. He found an incidence of 0.4% normal gall bladders in his series of over 1,700 cases. Weiss[23] reported several unusual experiences he had with biliary tract disease and noted that 65% of patients who have had an acalculous gall bladder removed are improved postoperatively.

The early operation for acute cholecystitis has also stirred debate and many reports pro and con from several centers. Hinchley et al[11] and Strohl[19] have discussed this problem and found that early operation during the daylight hours, after the patient has been evaluated, and the course of the illness can be established, to be the best approach. The incidence of perforation of the gall bladder in recent years has ranged from 2.9% to 11.9%.[19] The mortality of a perforated gall bladder has ranged from 20% to 29%. Its occurrence more often in the older age groups contributes largely to this.

Mortality rates for different types of biliary tract surgery have received careful study by many surgeons.[1, 4, 7, 12, 13, 19] The postoperative mortality of patients with chronic cholecystitis with calculi that have had a cholecystectomy ranges from 0.3% to 1%, while cholecystectomy for acute cholecystitis with calculi has a postoperative mortality rate four times greater.[11, 16, 19] If the patient is over 50 years of age the mortality rate has been found to be increased. In 1934 Heuer collected 36,623 cases of biliary tract surgery and found a 6.6% postoperative mortality rate. Glenn[7] reported in 1963 that the postoperative mortality in 2,358 biliary tract procedures to be 1.7%. He noted that certain types of procedures carry a specifically higher postoperative mortality. This is due in part to the type of patient and the problem that requires that specific procedure. He found cholecystostomy to have a 12.5% postoperative mortality rate while cholecystoenterostomy carried a mortality rate of 12.3%. Cholecystectomy and common duct exploration had a 2.8% postoperative mortality rate while common duct exploration alone had a 2.3% mortality rate postoperatively.

In recent years several surgeons have felt that the addition of a common duct exploration to a cholecystectomy did not increase the risk to the patient. Saypol[18] noted that there was a growing number of unnecessary choledochostomies and observed that there is no justification for opening the common duct at the time of cholecystectomy "if in doubt." He felt that predissection cholangiograms did not decrease the number of unnecessary choledochostomies. Careful consideration of the indications and proper operative palpation of the common duct were stressed. He noted that the danger of pancreatitis following duct surgery and operative cholangiography is 35%. When a common duct exploration had been done, several authors[12, 13] noted a significant increase of morbidity. Dowdy and Waldron[4] reported that the age of the patient, coexistent pancreaticobiliary disease, and coexistent surgical procedures greatly influences the frequency of postoperative complications.

The indications for exploration of the common duct have recently been well described by Saypol,[18] Kornfield and Allbritten[12] and Colcock.[2]

The incidence of common duct stones has been described by Colcock[2] as 10% in a series of 1,356 patients. Hinchley et al[11] noted a 7.1% to 11.4% incidenee of stones and found that Dunphy reported 42% of his patients with cholelithiasis had their common ducts explored with a recovery of common duct stones 50% of the time. In Hinchley's series of cases, 21.3% of 528 cases had a common duct exploration with a 44.8% stone recovery rate.

Kornfield and Allbritten[12] noted that the early and late morbidity of common duct surgery had been reduced by the use of antibiotics. They noted that if there was no indication for a common duct exploration and the duct was then explored that only a 3% recovery of calculi occurred. They also noted that the average hospital stay was prolonged an average of 3.5 days when the common duct was explored.

Once the common duct has been explored and calculi removed, the problem of retained calculi must be dealt with effectively. Edmunds and Hughes[5] found in their series of 413 common duct explorations that 20 required re-exploration. Of the 20 cases that were re-explored, 15 had an operative cholangiogram interpreted as normal in the operating room. In this group, the later cholangiogram through the T tube was abnormal in 12 cases. Of the 20 cases, 19 had re-exploration within a year. Calculi were found in 14 of these cases. It was of note that the operating surgeon was correct in his operating room diagnosis of the cholangiogram in only 2 of the 15 operative cholangiograms.

Hampson and Petrie[10] reported a 7% incidence of retained calculi in patients in whom common ducts were explored and calculi were found initially. In 23% of these patients who had a second procedure for removal of the retained stones there were additional retained stones that required still further surgery. Larson, Hodgson and Priestley[13] studied the early and late results of common duct exploration and noted that the incidence of reported retained common duct stones varied from 1.6% to 33.0% as found in the literature. Their own series had a 3.1% incidence. Only 69% of the patients with positive common duct explorations were alive five years later and 79% of those with negative explorations were alive five years later.

Glenn[7] noted that the postoperative mortality rate for patients who had secondary operative biliary tract procedures was 6.7% in contrast to a 1.9% mortality rate for the patients with a primary procedure on the biliary tract. He also noted that the incidence of retained common duct calculi seems to be the same, in studying many reported series of surgeons, among those who routinely explore the common duct in contrast to those who do not do a routine exploration of the duct.

Common causes of persistent symptoms following common duct exploration or cholecystectomy, other than retained common duct calculi, are retained cystic duct remnants and scarring about the common duct. Glenn and Whitsell[9] reported that most of these instances are avoidable. They felt that a retained cystic duct remnant should be incriminated as the cause of the patient's symptoms only after all other causes have been excluded. In their series of cases in which 57 cases were thought to be due to retained cystic duct remnant, 21 cases had retained common duct stones.

Scarring about the common duct and stricture formation has provided an entire chapter in the history of biliary tract surgery for many years. Dowdy, Waldron and Brown[3] have discussed the surgical anatomy of the region in a recent article and found that variation in "normal" anatomy was the rule. Trauma to the structures at the time of the surgery has been considered to be the primary cause of scarring and stricture formation by many authors.[14, 21] Every surgeon who removes a gall bladder should be aware of this area of surgical reporting of experiences.

If injury to the common duct does occur at the time of surgery, that is the time to do something about it. Longmire[14] noted that in 15 out of 24 cases he reported that this was done with acceptable results. The first sign of operative injury that was not suspected at the time of surgery was the onset of jaundice 3-7 days postoperatively. Persistent biliary fistula or the development of a postoperative subphrenic abscess are also developments that should alert the surgeon to common duct injury and stricture. Longmire felt that a choledochojejunostomy was the preferable method of repair even though the end to end anastomosis of the duct after resection of the stricture has been described by many to be the preferred method of repair. This works only if the stricture is a small localized one. Warren and MacDonald[21] discussed all phases of strictures of the common duct and found 97% of their cases to be due to operative trauma and therefore avoidable. Non traumatic perforation of the bile ducts has been reported.[17] Fortunately the incidence of stricture of the common duct is decreasing as the number of biliary tract surgical procedures being performed is increasing.

Good postoperative results do not always follower proper removal of the gall bladder or exploration of the common duct. Even if the gall bladder contains calculi or even if all of the calculi have been removed from the common duct, coexisting diseases and problems account for a significant number of unsatisfactory results of biliary tract surgery.[4, 8] Dowdy and Waldron discussed this problem and found that 28.5% of their 2,250 patients with biliary tract surgery had pancreaticobiliary disease other than gall stones. In 30% of the patients other diseases were present. The average patient had a 40% chance of additional surgical procedures being done other than removal of the gall bladder. Complications would occur in 30.5% of these patients who had cholecystitis and gall stones before any surgical procedure had been done. The average patient with gall stones had a 15.8% chance of a postoperative complication and there was a 2.4% chance of not surviving the surgery and the postoperative period. In these patients in whom coexistent factors did not exist, 36% of the total number of patients, complications occurred in a significantly lower percentage of patients.

The postoperative complications of a serious nature that did not require reoperative therapy have been summarized by Glenn and McSherry.[7] Postoperative infection was still a major complication of biliary tract surgery. Colcock[2] concurred with Glenn and listed infection as the most common postoperative complication. In 1,756 patients, wound infection occurred in 43 cases and intraperitoneal abscesses in 15 cases. Thirty-one patients had pulmonary complications and phlebitis occurred in 20 cases. Persistent symptoms occurred in a significant number of cases. (5% to 20%)

At present the patient who has a fatal complication will die of different causes than in earlier years. Glenn and McSherry[7] found that the former causes were hepatic failure with cirrhosis, infection and pulmonary complications. At present, cardiovascular renal complications cause the greatest number of deaths. Hepatobiliary disease was the second most common cause of death. Dowdy and Waldron[4] found that myocardial infarction, peritonitis, acute pancreatitis and liver failure accounted for 68% of the postoperative deaths in their series of 2,285 operations.

From this brief review of the literature the author concludes the following:

1. Surgery of the gall bladder and common duct still has a certain significant number of patients in whom the initial operation does not solve their problem.
2. Diligent investigation of the patient who has atypical symptoms with cholecystitis should be done before an operative procedure is planned.
3. When other diseases are found they should be treated. At times it is possible to treat them concomitantly with the gall bladder surgery. Gastrointestinal disease takes precedence over biliary tract problems.
4. Many of the patients who might have an unsatisfactory result would be benefited by having their surgery performed by surgeons who are trained and competent to do this type of surgery.
5. The surgeon who contemplates doing biliary tract surgery must thoroughly investigate his patient preoperatively, have a complete knowledge of pathological anatomy of the pancreaticobiliary tree, intimately

know when to open the common duct and when not to do so, know how to do a complete common duct exploration, utilize operative cholangiography properly, consult the radiologist about the cholangiograms at the time of surgery, amputate the cystic duct properly, administer antibiotics when indicated, and carefully follow and treat his patient postoperatively.

SUMMARY

A ten-year experience with 405 patients upon whom 410 surgical procedures were done on the biliary tract has been presented. This experience was confined to the small hospital environment. Variations in a small hospital environment, in contrast to a large hospital, have been discussed. The surgeon must constantly work to help improve the hospital environment in which he works, whether it is small or large.

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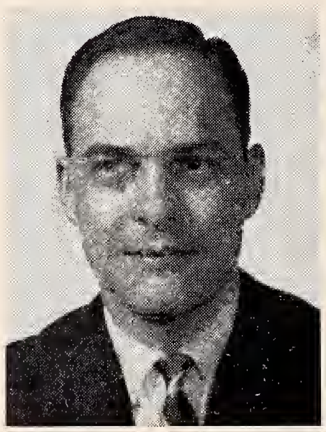
Newly Defined Muscular Dystrophies: A Review



Alan Yudell, M.D.

Muscular dystrophy may be defined as a genetically determined, primary degenerative disease of skeletal muscle.[1] Confusion has long existed with respect to an appropriate classification of the muscular dystrophies. The most generally accepted grouping is that of Walton and Nattrass[2] and its subsequent modifications[3,5] in which persons with these disorders are divided into two major clinical groups: those with myotonia and those without myotonia. Patients are seen more frequently without myotonia than with this phenomenon.

The "pure" muscular dystrophies, i.e., those without myotonia, include:

1. The Duchenne type: pseudohypertrophic variety beginning in early childhood.
2. The limb-girdle variety: shoulder or hip-girdle weakness with onset in adult life.
3. The facioscapulohumeral type: involvement of the face, shoulder girdle, and, in many, primary or later involvement of the pelvic girdle.
4. The distal myopathy of Gowers[5]: a disease of late adult life with involvement beginning in the distal extremities and spreading proximally.
5. The ocular type[6]: bilateral ophthalmoplegia with weakness of the upper facial muscles and occasionally dysphagia.
6. Congenital myopathies: slowly or nonprogressive muscular weakness evident at, or shortly after, birth.

In recent years, several new varieties of primary muscular disease (i.e. myopathies) have been described, each of which appears to cause distinctive alterations in muscle tissue. The delination of these changes has been made possible by the development of new and improved techniques in histochemistry, biochemistry, and electron microscopy. These newly described entities all fulfill the criteria characteristic of muscular dystrophy; viz., they are primary, degenerative diseases of skeletal muscles, some of which are, or appear to be, genetically determined. In most of these latter myopathies the onset of clinical manifestations occurs at, or shortly after, birth; therefore, these forms can be placed in the category of *congenital myopathies.* The congenital myopathies will be the main topic of this review.

The types of muscular dystrophy associated with myotonia include myotonia congenita, myotonic dystrophy and paramyotonia congenita.

Phoenix, Arizona.
(Paper was completed while Dr. Yudell was Assistant Professor of Neurology at Baylor University College of Medicine, Houston, Texas.)

The terms *amyotonia congenita*[7] and *myatonia congenita*[8] are now seldom used. Oppenheim used *amyotonia congenita* in describing "floppy" babies who later improved, but his failure to provide pathological studies prevents us from knowing what disease or diseases he observed. Various authors have tended to use these terms in different ways. To avoid confusion, many have simply refrained from using them at all. However, *myotonia congenita* is a specific familial disorder associated with myotonia and is the appropriate term for this disease, while *myatonia congenita* and *amyotonia congenita* are terms without specific meanings.

Reviews of all these varieties of muscular dystrophy are readily available in the literature, two excellent sources of reference being those of Walton[9] and of Zundel and Tyler[10].

There have been other reports of one or several members of a family with a myopathy which appears to be clinically different from others reported in the literature. Unfortunately in these cases, the pathologic alterations of muscle fibers are not specific, and no specific enzyme defects have been demonstrated.

Undoubtedly, this is just the beginning of the division of the myopathies into separate entities. As new techniques are developed, the varieties as presently classified will probably be divided into even more discrete entities. Only when it is possible to determine the basic biochemical defects in patients with the various myopathies may a final classification of the muscular dystrophies be made.

CONGENITAL MYOPATHIES

The newly defined congenital myopathies may be divided into those resulting from abnormalities of the muscle sarcoplasm, mitochondria or those in which there is an abnormal storage of glycogen within the muscle fibers. (This is somewhat of an oversimplification but useful for the purposes of discussion.)

Abnormalities of Sarcoplasm

Central Core Disease: In 1956, Shy and Magee[11] described a familial disorder of muscle which affected five persons in three generations. All had hypotonia and muscular weakness from birth; motor skills were acquired slowly and later than normal. They were not able to walk until 3 or 4 years of age. Skeletal muscles were small, but tendon reflexes were usually normal. Weakness was present in proximal and distal muscles, more predominantly in the former, and did not appear to change with time. Electromyography revealed myopathic motor unit potentials. Progressive weakness appeared in one patient when he was in the fourth decade of life.

Routine histological examination of muscle fibers, employing light microscopy, revealed characteristic abnormalities. An amorphous core having a definite fibrillar structure which traversed the *entire length* of the fiber was observed in the central portion of muscle fibers. Large fibers contained as many as five separate cores. These cores were PAS-positive even after treatment with diastase. Mitochondria, aqueous sarcoplasm, and sarcoplasmic reticulum were absent from the core. Portions of the fiber outside the core were normal. Occasional fibers showed acute necrosis and phagocytosis, and some sarcolemmal nuclei were found within the sarcoplasm. Connective tissue and fat were increased between the muscle fibers.

Nemaline Myopathy: In 1963, Shy and coworkers[12] and Conen, et al,[13] reported another nonprogressive myopathy which appeared to be familial. Nine other reports of this disease have now appeared.[14-22] In infancy, these children were hypotonic or "floppy" and motor development was retarded. Motor skills were gradually acquired, and with time the children appeared to gain in strength. Muscle bulk was decreased, but muscle testing often showed the strength to be surprisingly good. Proximal muscles tended to be weaker than distal ones. In some cases the face and neck muscles were also weak, and in others the tendon reflexes were absent. Most children with this disorder appeared to "outgrow" the disease, although in some patients[21, 15] significant regression in muscle strength occurs later in life.

The most characteristic microscopic feature of the disease is the presence of rod-like (nemaline) structures, up to 5.0 micra in size, within approximately half the muscle fibers. These rods can best be observed under the light microscope utilizing frozen sections and the modified Gomori trichrome staining technique[23] or equally well in PTAH stained paraffin sections.[24] The rods are composed of a dense protein material which always appears to arise from the Z disc of the muscle fiber but may become dislocated from these areas. Fragmentation of the Z disc is often apparent in patients with the disease. However, it is possible that these nemaline structures are a nonspecific alteration of muscle fibers and do not constitute a specific entity. Similar rods have been observed in three middle-aged adults[25, 22] in whom the onset of a myopathy occurred in later life, and have also been seen in tenotomized cats.[25] In addition to the presence of the nemaline rods an occasional muscle fiber was noted to be undergoing acute necrosis and phagocytosis.

Myotubular Myopathy: The clinicical syndrome seen in the patients born with bilateral facial paralysis and internal strabismus, occasionally associated with other anomalies, is known as the Moebius syndrome. Some authors have reported a loss of neurons in cranial nerve nuclei in patients with this disorder, while others have observed abnormalities of nuclear interconnections. Other investigators have been unable to find such abnormalities. In a recent case report of the Moebius syndrome, no abnormalities of the central or peripheral nervous system were found.[26] However, the patient did have nonspecific facial and eye muscle abnormalities. Thus, there are several different disorders of nerve or muscle which might cause this clinical syndrome.

In January, 1966, Spiro, et al,[27] noted a curious change in the muscle fibers of one patient with clinical findings compatible with the Moebius syndrome. The patient, age 12, had bilateral facial paralysis, ptosis, limited eye movements, weakness and wasting of his distal extremity muscles, and a small right pectoral muscle. Biopsy revealed large, rounded muscle fibers in which the central nuclei were surrounded by a clear area devoid of myofibrils. The appearance of these muscle cells was similar to that of fetal muscle prior to the fifth month of gestation. Because fetal muscles are formed from myotubes, the disorder was called myotubular myopathy. With the demonstration of this pathologic alteration of muscle fibers, a specific myopathy is now known to be yet another cause of the Moebius syndrome.

Other Myopathies of Sarcoplasm: A preliminary report[28] of a congenital myopathy associated with multifocal degeneration of muscle fibers with focal mitochondrial loss and myofibrillar alterations has recently been presented. This case of a unique defect may be the first report of yet another congenital abnormality of fiber structure.

Mitochondrial Abnormalities

Luft's Syndrome: In 1959,[29] and in 1962,[30] Luft and his Swedish coworkers reported an unusual syndrome in a thirty-five-year-old woman. Since childhood she had noted symptoms suggestive of hyperthyroidism: perspiration, polydipsia, polyphagia, and decreased weight. When seen at the age of 19, she had moderate tachycardia and a basal metabolic rate of +172. Antithyroid therapy and thyroidectomy failed to alter her basal metabolic rate, although she did become myxedematous. Neurologic examination revealed myopathic weakness and absent tendon reflexes.

Biochemical studies of isolated skeletal muscle mitochondria showed a nearly maximal rate of respiration. Electron-microscopic examination of muscle fibers revealed an increased number of mitochondria, altered in size and configuration, and with densely packed cristae. Similar alterations of mitochondria have been seen in muscles of a high metabolic rate, such as the flight muscles of insects.

Pleoconial and Megaconial Myopathy: There were no other reports of mitochondrial abnormalities until 1964 when Shy and Gonatas[31] observed giant mitochondria in a biopsy of skeletal muscle from a patient without hypermetabolism but with muscle weakness. Shy, et al,[32] in 1966, reported in more detail two patients with abnormal mitochondria and proximal muscular weakness evident from early infancy. Hypermetabolism was not present.

One patient, an eight-year-old boy, had always been "floppy." His development was delayed, and he was unable to sit up until ten months of age. Although muscle performance was poor throughout his life, he did seem to improve for brief periods. He had three prolonged episodes of increased weakness which were similar to the attacks seen in patients with periodic paralysis (possibly caused by electrolyte sequestration by the mitochondria[33]). The child craved salt and would cover his food with it or frequently eat a whole teaspoonful. A twelve-year-old brother had a similar craving. Electron-microsopic examination of his muscle fibers showed some to be normal, but in others the mitochondria were greatly increased in number and moderately increased in size. In large areas of the fibers, the myofibrils were replaced by densely packed mitochondria, and round inclusion bodies were often present.

The other patient, an eight-year-old girl, developed a slowly progressive weakness first noted at the age of three. Walking became difficult and she had to crawl to ascend stairs. Proximal limb weakness was evident; in time patellar tendon reflexes disappeared. In an older sibling, examination prior to death revealed areflexia and proximal limb weakness. Abnormal fibers with large mitochondria were evident on electron-microscopic examination. The mitochondria often appeared in rows and covered the length of a sarcomere. The internal structure of these abnormal mitochondria was deranged, and mitochondrial inclusion bodies were noted.

Abnormalities of glycogen storage. Three of the six recognized forms of glycogen storage disease are known to affect striated muscle: 1) McArdle's disease,[34] caused by a deficiency of muscle phosphorylase; 2) Pompe's disease,[35] in which a deficiency of acid maltase is demonstrable; and 3) Forbes' disease,[36] due to a deficiency of amylo-1, 6-glucosidase. Two other enzymatic defects of glycogen metabolism, phosphofructokinase deficiency and phosphohexoisomerase deficiency, may result in skeletal muscle disease and have recently been reported.[37, 38]

Other diseases characterized by the storage of what appears to be glycogen, but in which specific enzyme defects have not been demonstrated have also been reported.[39, 40] Two general reviews of muscle glycogenosis have recently appeared.[41, 42]

McArdle's disease (Cori's type V glycogenosis) is the first myopathy proved to be due to a single enzymatic defect. It is more commonly encountered in adults than children. Muscular exertion will cause cramping and occasionally myoglobinuria. Between attacks, the patient may appear normal. Cramps may be induced by exercising the muscle following the occlusion of the blood supply to an extremity by means of a sphygmomanometer. The reason for these cramps is not understood.

Pompe's disease (Cori's type II plycogenosis) is the most severe form of glycogenosis and usually results in death during infancy. In this disease, glycogen accumulates in the liver, kidneys, heart, skeletal muscle, and the central nervous system. Affected children are very hypotonic and weak, and death usually occurs as a result of a cardiac and respiratory failure. Pompe's disease should be suspected in an infant with an enlarged liver accompanied by cardiac failure and hypotonia.[43-45]

Forbes' disease (Cori's type III plycogenosis) affects liver and skeletal muscle but is relatively benign. Patients generally are hypotonic and weak. They may have hypoglycemia and ketosis secondary to liver dysfunction. The latter difficulty is clinically more significant than the muscular involvement.[46]

SUMMARY

Newer techniques of histochemistry, biochemistry and electron microscopy have helped us separate several primary diseases of muscle from the classical forms of muscular dystrophy. Most of these recently described disorders are apparent at birth and can be classified under the clinical category of congenital myopathy. These newly described entities may be the result of defects of sarcoplasm or myofibrillar structure (central core disease, nemaline and myotubular myopathy), defects of mitochondria (Luft's syndrome, pleoconial and megaconial myopathy) or defects of glycogen utilization (McArdle's, Pompe's and Forbes' disease).

Obviously, we are just beginning to define the congenital myopathies, and these are simply our early attempts at classification and differentiation. New techniques will undoubtedly further subdivide these syndromes.

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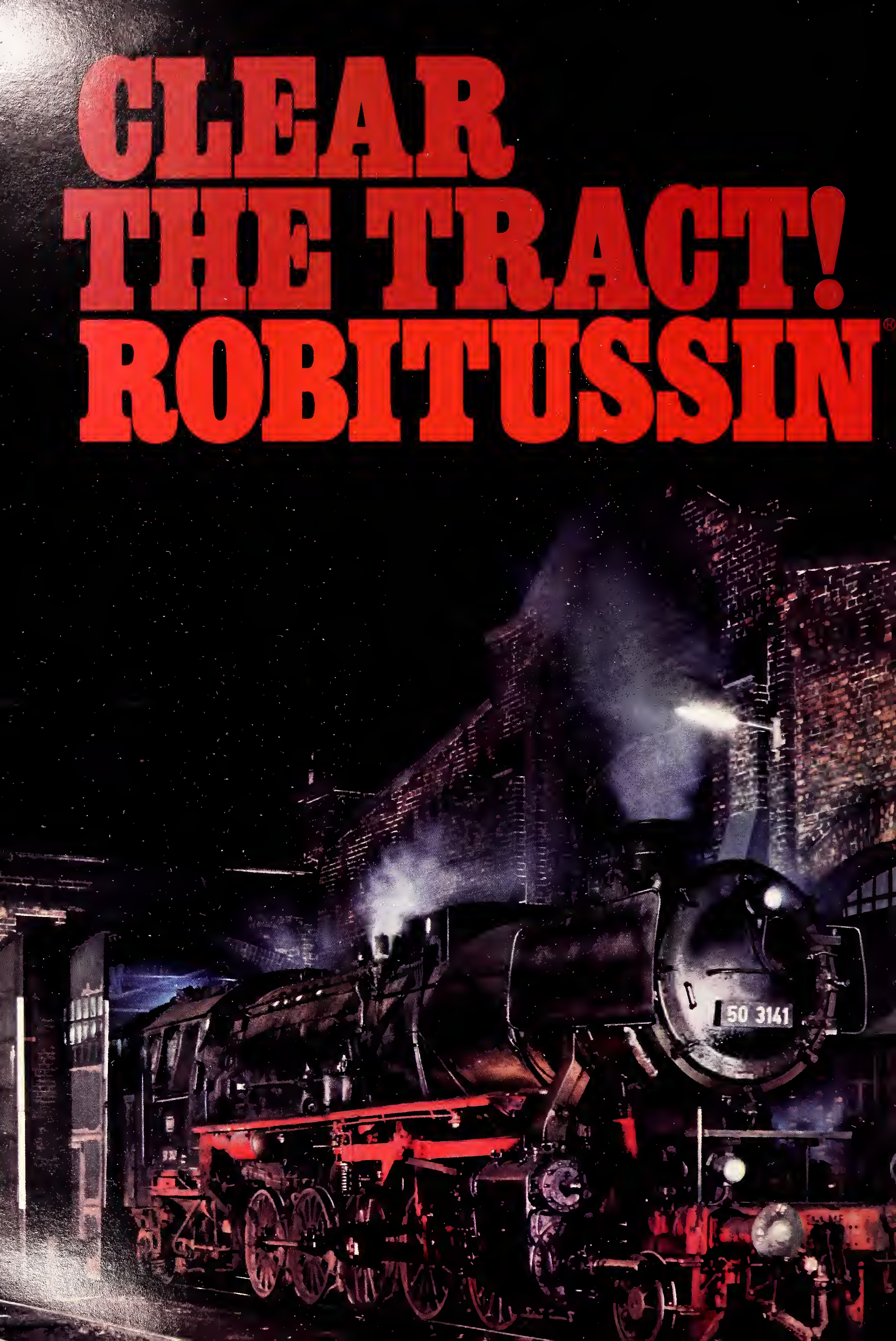
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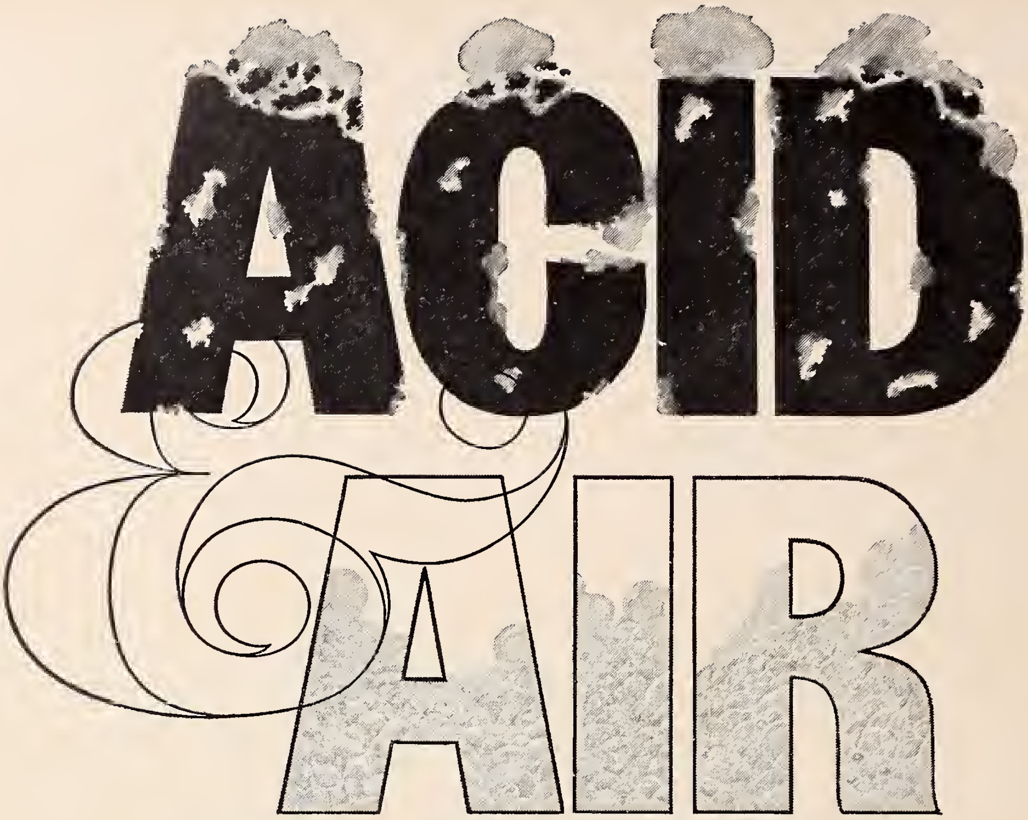

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PRESIDENT'S PAGE

Dr. Dysterheft

What is the most pressing significant problem and concern facing state medical associations across the nation today? At a recent meeting of the organization of state medical association presidents in Chicago the "progressive" fragmentation of medicine seemed to be next to or head the list. Fragmentation has been a fact of life in organized medicine for some time, the progressive erosion of segments upon parent organizations in an undisciplined manner with associated immature judgment has created difficulties not readily solved, suppressed or compromised with by the state executive and governing bodies.

In seeking reasons and causes for this ever increasing dilemma the round table discussions concluded that the various deficiencies at the state executive level predisposed much of the independent action. Lack of communication, lack of appropriate representation at the Delegate, Board of Directors and committee level structure, along with a monolithic approach to medico-economic problems, were responsible for a go-it-alone philosophy. Improved communication increased specialty recognition at the Delegate level, increased participation of segmented groups at the annual meeting were some suggested remedies, with state society approval of a specialty to be withheld if said specialty repeatedly obstructed or interfered with action of the parent organization.

In unity, cohesiveness of purpose and mutual respect, all members of ARMA should dedicate themselves. Constructive criticism is welcome. It will not be misrepresented or misinterpreted as unfeeling opposition or obstruction, but rather as a method of achieving an improved and equitable condition best serving all members.

If an impasse of major proportions with a government agency develops it should be remembered that its importance precludes any arbitrary action by the officers, Board of Directors or committees inconsistent with previous House of Delegate direction.

Finally, if the seeds of dissatisfaction remain coupled with an insincere motivation and an indifference to the fact that we are all physicians first, organized medicine, its societies, its members will forfeit its identity during these changing times.

Arnold H. Dysterheft, M.D.
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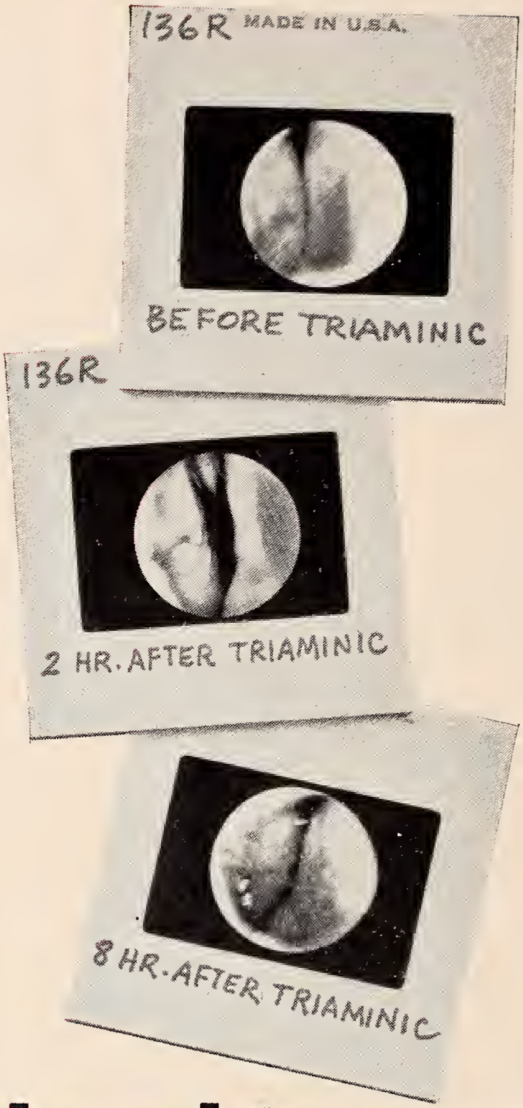

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Regional Medical Programs — Part I

In a very excellent review article published in a recent issue of the NEW ENGLAND JOURNAL OF MEDICINE (August 11, 1966) Mr. John M. Russell made the following statement. "Is it possible to make a project started for the wrong reasons and designed the wrong way into something worthwhile?" Mr. Russell was referring to the federal legislation which has culminated in what is known as the Regional Medical Program for Cancer, Heart Disease and Stroke. And although some might say that he has exaggerated the situation somewhat, his words do constitute a forceful reminder that the program was born into controversy and was shrouded in misunderstanding.

The background story of the development of the Regional Medical Programs, if the following story is true, is indeed fascinating. It is said to have begun when Mrs. Kennedy started to redecorate the interior of the White House and asked for donations of furniture and pictures. Apparently, one of the donors gave a number of very fine gifts to the President and Mrs. Kennedy who, in return, asked if they could do something for the donor. The donor requested that something be done to conquer cancer. Subsequently, President Kennedy disclosed a plan to establish a presidential commission on cancer and heart disease. Stroke was added later, at about the time the President's father became ill, thus giving rise to the concept of the "killer diseases." After the assassination this concept was forwarded to President Johnson who stated that he would form such a commission.

The membership of the Presidential Commission on Cancer, Heart Disease and Stroke was announced in March of 1964. Dr. Michael E. DeBakey was appointed Chairman. The Commission held its first meeting in April and, backed by the superb efforts of a full-time staff, published its report in December of 1964 in time for its recommendations to be incorporated into appropriate legislation by the 89th Congress.

The title of the Commission report was "A National Program to Conquer Heart Disease, Cancer and Stroke." Although it contained thirty-five recommendations, only three were singled out as constituting the core of the Commission's proposals. These included the recommendation that a national network of Regional Heart Disease, Cancer and Stroke *Centers* be established for clinical investigation, teaching and patient care; that a national network of diagnostic and treatment stations be established across the nation; and that a broad and flexible program of grant support be undertaken to stimulate the formation of medical complexes within which appropriate institutions and agencies could work toward their goals in concert. These three recommendations were then translated into appropriate legislation in the House of Representatives and the Senate — House Resolution 3140 and Senate Bill 596, respectively.

During the course of Public Hearings that were held on the legislation, it became apparent that there was considerable sympathy for the objectives of the Commission Report. At the same time, however, grave reservations were expressed over the methods that had been suggested for achieving them. The real concerns were identified as two in number. First, the concept of "Centers" was objectionable because it encouraged people to think in terms of "buildings" — presumably identified with a university medical center or a graduate institution involved in health training. Second, it almost totally ignored the role of the practicing physician who, after all, was the one person who was in the most advantageous position to be of direct assistance to the patient with cancer, heart disease or stroke. As a result, by the time the hearings were over, every line of the original bill had been stricken (twelve pages in all) and a completely new bill had been substituted. It was this new bill that subsequently passed both the Houses of Congress and was signed as Public Law 89-239 by President Johnson in October, 1965.

Today, many physicians still think of "Centers" when they hear about Regional Programs. Therefore, next month we will discuss the legislation that actually resulted.

Monte DuVal

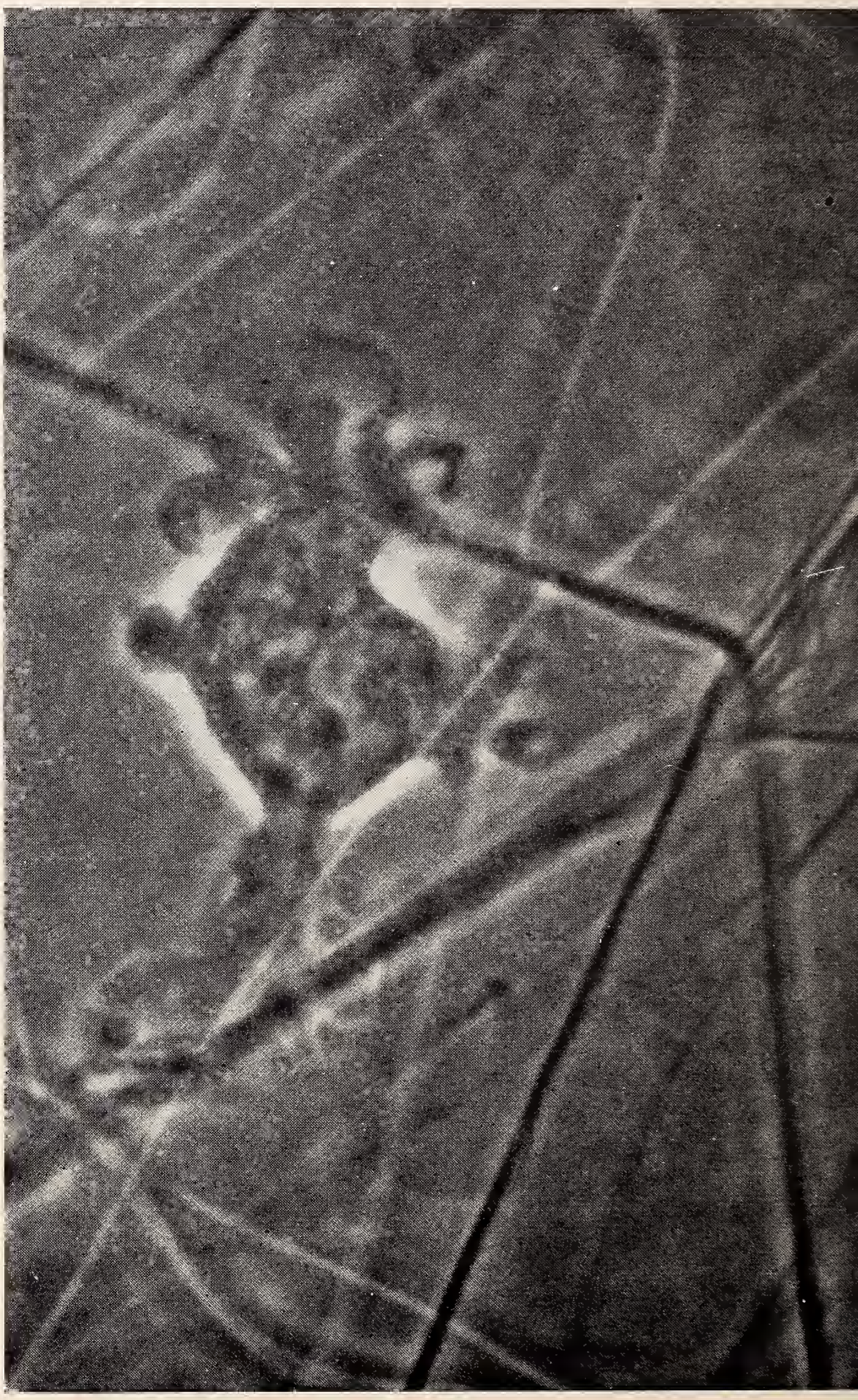
INFLAMMATION:

A cellular fight for life

A SYNTEX REPORT based on recently developed hypotheses about topical corticosteroids, including the cellular theories of inflammation by Thomas F. Dougherty, Ph.D., University of Utah.

You are looking at a fibroblast fighting for life. This cell—one of the most common found in connective tissue—has literally been poisoned by cytotoxins released from other cells that have ruptured. Soon, if the abnormal activity of this fibroblast does not cease, it, too, will rupture and die—one more casualty in the inflammatory wave of destruction precipitated by injury.

Until a short time ago no one had ever witnessed such a scene at the cellular level. Now, through advanced cinemicrographic techniques, it is possible to view and photograph the inflammatory process as produced experimentally in living animal tissue. This method permits new insight into the mechanism of inflammation and the role of corticosteroids in therapeutic management. Equally important, these techniques shed new light on factors that may make one corticosteroid more effective than another—factors that can be correlated with other chemical, biologic, and clinical parameters.

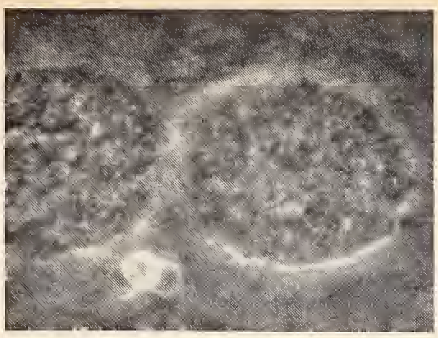


Visual evidence of how corticosteroids influence the inflammatory reaction

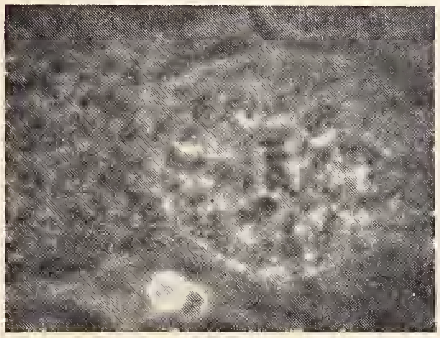
Working with phase-contrast cinemicrography on living animal tissue, Doctors Thomas F. Dougherty and David Berliner of the University of Utah College of Medicine have actually filmed cellular events that occur during the inflammatory reaction. This remarkable study* and additional work by these investigators, as well as by others, have established a new theoretical biologic basis for the antiinflammatory effect of the corticosteroids. (It must be noted that other theories, such as the lysosome or so-called "suicide bag" theory, have been postulated, although it is quite likely that there are more similarities than differences among the various theoretical models.)

The inflammatory wave of destruction

In this investigation an injurious injection of gelatin is used to set off an inflammatory reaction in living mouse tissue. What follows is a wave of destructive cellular activity that comprises the inflammatory response to injury. Mast cells (which contain heparin, serotonin and histamine) take up water, swell and rupture, releasing their contents, which are toxic outside the mast cell wall. These toxins, in turn, cause disintegration of other cells (such as fibroblasts) and the release of additional toxic material. Capillaries, too, take up water and leak unformed blood elements, causing edema. And polymorphonuclears, lymphocytes and perithelial cells invade the inflamed site. As a result of all these changes, the cellular environment reaches a state of turmoil.



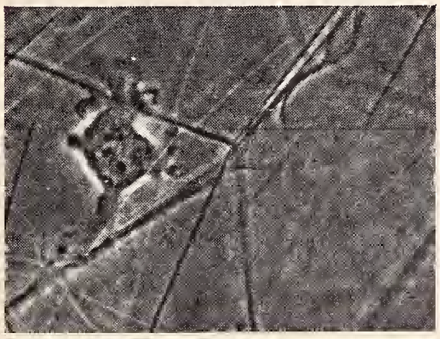
Phase-contrast microscopy showing mast cell before injury.



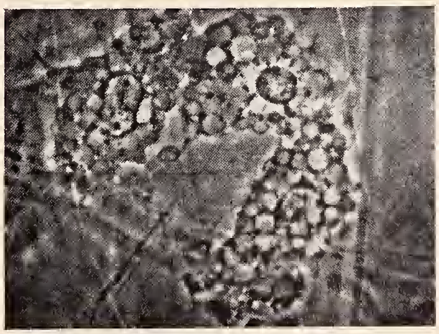
Mast cell (after injury) has broken up and released cytotoxins.

How corticosteroids change the picture

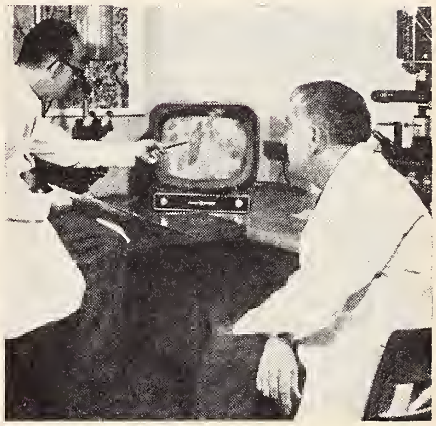
Corticosteroids appear to virtually stop the abnormal cellular activity that constitutes the inflammatory reaction. This permits the body's natural resources to clear up the inflamed area and repair the damaged tissue. This interpretation is supported by the fact that when the injurious gelatin solution is injected simultaneously with a corticosteroid – Synalar (fluocinolone acetonide) – the inflammatory pattern simply does not develop.



Fibroblast in high state of activity, much distorted.



Mast cells showing effects of corticosteroid action: cells are normal in size, shape and activity.



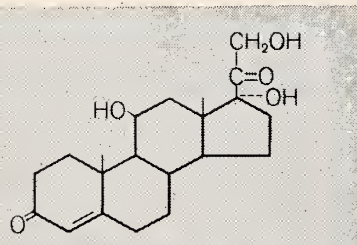
In summarizing his study Doctor Dougherty states: "...we also feel this work may explain why one corticosteroid helps a patient more rapidly and effectively than another. If it does, it is because one corticosteroid is the fastest, most effective inhibitor of the series of inflammatory events at the tissue level."

**A New View of Corticosteroid Action in Inflammatory Dermatoses,* a film based on this study, is now available from your Syntex representative.

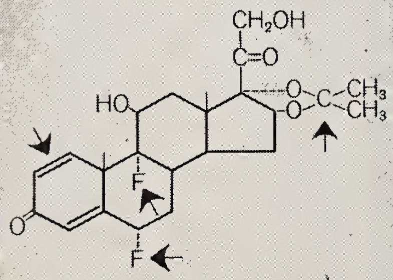
See last page for contraindications, precautions, side effects and dosage.

How advances in chemical design have achieved greater steroid potency

The chemical modification of corticosteroid molecules from the advent of hydrocortisone to the development of Synalar (fluocinolone acetonide) is a prime example of how biochemists can "design" to increase therapeutic activity and minimize undesirable side actions. Below, for example, we see the important changes that were made in reference to the hydrocortisone molecule to produce fluocinolone acetonide, one of the most active of all topical corticosteroids. As a result, a 0.01% preparation of Synalar (fluocinolone acetonide) has been reported to do the work of a 1% hydrocortisone product containing 100 times more cortiscosteroid. And it can often do it more effectively.



Hydrocortisone

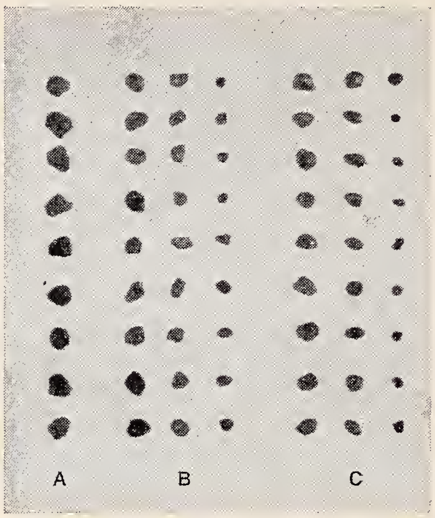


Fluocinolone Acetonide (Synalar)

- ☐ *a double bond between carbons 1 and 2*
- ☐ *fluorine substitutions at both the 6-α, and the 9-α positions*
- ☐ *the addition of the acetonide at the 16-α, 17-α positions, thus providing one of the most potent topical corticosteroids available.*

How bioassay tests are used to "predict" therapeutic potential

Biologic assays are another tool used by researchers to help establish the relative activity of corticosteroids. To date no single method of assaying corticosteroid activity has emerged as the ideal "yardstick" for predicting therapeutic potential. Taken together, however, these methods have proved useful. When such tests are run on various corticosteroids, a definite order of corticosteroid activity becomes evident. Compounds with the highest order of activity may be expected to merit clinical trial to establish their high therapeutic potential. When assayed by these methods, fluocinolone acetonide (Synalar) emerges as one of the most active topical corticosteroids, milligram for milligram, available for clinical application today.



The Thymus Involution Assay[1-4] is run on adrenalectomized rats. The sizes of the glands are measured, and the degree of involution caused by the steroid is determined as an indication of its potency. In the above photo, the comparative involution of thymus glands achieved with hydrocortisone and Synalar (fluocinolone acetonide) is shown. Untreated controls (A) show normal size. Group B —injected with 1, 2 and 4 mg. of hydrocortisone—show progressively smaller thymuses as does Group C—injected with fluocinolone acetonide —but with only 1/500th the dose of hydrocortisone.

The Antigranuloma Assay[1-4] also utilizes adrenalectomized rats. Granulomas are induced by subcutaneous implantation of cotton pellets on either side of the thorax. The degree of granuloma inhibition achieved by a steroid reflects its potency. The above photo shows the inhibition of granuloma formation achieved with hydrocortisone and Synalar (fluocinolone acetonide). Untreated controls (A) show large, red granulomas adhering to the pellets. Group B, receiving hydrocortisone and Group C, receiving fluocinolone acetonide, show little, if any, granuloma formation. Fluocinolone acetonide produced the same effect as hydrocortisone with only 1/500th the dose. This assay, as well as the thymus involution assay, measures systemic rather than topical corticosteroid activity. Nevertheless, results by these methods correlate well with other assays and with the milligram potencies of topical steroids in current clinical use.

Worldwide clinical experience confirms the predictable therapeutic potential of Synalar

It is particularly gratifying that the promise of the advanced chemical design and high order of bioassay activity of Synalar (fluocinolone acetonide) has been confirmed by widespread therapeutic application. Indeed, the impressive clinical response rate of Synalar has been documented in no fewer than 232 papers from 22 countries.

Representative Clinical Results with Synalar*

Efficacy Documented in over 4,000 Patients

Condition	Number of Publications	Number of Patients	Significant Improvement†
Contact Dermatitis	27	750	713
Eczematous Dermatitis	21	472	409
Seborrheic Dermatitis	18	442	426
Atopic Dermatitis	24	460	426
Psoriasis	36	1,699	1,510
Neurodermatitis	18	351	324
Total	144	4,174	3,808

*Complete bibliography on request.

†Expressed by the authors as excellent, very good, good, complete remission of inflammation, etc.

Prescribing Information

For initiation of therapy: Cream 0.025%, 5 and 15 Gm. tubes, 425 Gm. jars; *for emollient effect:* Ointment 0.025%, 15 Gm. tubes; *for maintenance therapy:* Cream 0.01%, 15 and 45 Gm. tubes, 120 Gm. jars; *for intertriginous or hairy sites:* Solution 0.01%, 20 cc. and 60 cc. plastic squeeze bottles; *for infected inflammatory dermatoses:* Neo-Synalar® Cream (0.025% fluocinolone acetonide, neomycin sulfate, equivalent to 0.35% neomycin base), 5 and 15 Gm. tubes. Contraindications: Tuberculous, fungal, and most viral lesions of the skin, (including herpes simplex, vaccinia, and varicella). Not for ophthalmic use. Contraindicated in individuals with a history of hypersensitivity to any of the components. Precautions: Synalar preparations are virtually nonsensitizing and nonirritating. However, the solution may produce burning or stinging when applied to denuded or fissured areas. In some patients with dry lesions, the solution may increase dryness, scaling or itching. While topical steroids have not been reported to have an adverse effect on pregnancy, the safety of their use on pregnant females has not absolutely been established. Therefore, they should not be used extensively on pregnant patients, in large amounts, or for prolonged periods of time. Prolonged use of any antibiotic may result in overgrowth of nonsusceptible organisms; if this occurs, appropriate therapy should be instituted. When severe local infection or systemic infection exists, the use of systemic antibiotics should be considered, based on susceptibility testing. Side Effects: Side effects are not ordinarily encountered with topically applied corticosteroids. As with all drugs, however, a few patients may react unfavorably to Synalar under certain conditions. The neomycin in Neo-Synalar Cream rarely produces allergic reactions.

References: 1. Lerner, L. J., Bianchi, A., Turkheimer, A. R., Singer, F. M., and Borman, A.: Anti-inflammatory steroids: potency, duration and modification of activities. Ann NY Acad Sci 116:1071 (Aug. 27) 1964. 2. Idem: Comparison of anti-granuloma, thymolytic and glucocorticoid activities of anti-inflammatory steroids. Proc Soc Exp Biol Med 116:385 (June) 1964. 3. Ringler, A.: Activities of adrenocorticosteroids in experimental animals and man, in Dorfman, R. I.: Methods of hormone research, New York, Academic Press, 1964. vol. III. pp. 234-280. 4. Gubersky, V. R.: To be published.

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For inflammatory dermatoses... by any measure a topical corticosteroid of choice

Synalar® (fluocinolone acetonide)

Milligram for milligram one of the most active topical corticosteroids available

Rapid and predictable in antiinflammatory and antipruritic activity

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Against these three major pathogens…

Pneumococci
Penicillin-Sensitive Staphylococci
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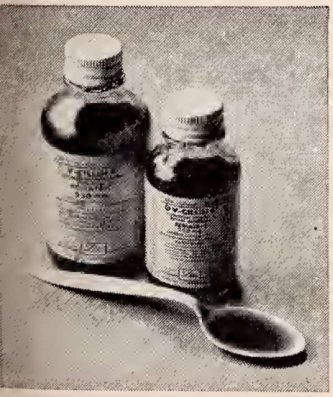
V-Cillin K® provides dependable oral antibacterial therapy

because it combines a high degree of activity...

V-Cillin K has been shown to be effective in the treatment of streptococcus and pneumococcus infections as well as infections caused by sensitive strains of staphylococci. It may be used for the prophylaxis of streptococcus infections in patients with a history of rheumatic fever and for the prevention of bacterial endocarditis after tonsillectomy in patients with a history of rheumatic fever or congenital heart disease.

with high blood levels, even when taken with food

V-Cillin K is stable in acid and immediately soluble. High serum levels, therefore, are reached rapidly. Because it is acid stable, V-Cillin K is well absorbed even when taken close to mealtime. These desirable properties help make V-Cillin K a dependable penicillin for oral use.



V-Cillin K® '01449

Potassium Phenoxymethyl Penicillin

Now available: V-Cillin K®, Pediatric, for Oral Solution, 250 mg. (400,000 units) per 5 cc. of solution.

(See next page for prescribing information.)

New 500 mg. tablets...a more convenient way to give high doses

Description: V-Cillin K, the potassium salt of V-Cillin® (phenoxymethyl penicillin, Lilly), combines acid stability with immediate solubility and rapid absorption. Higher, more rapid serum levels are obtained than with equal oral doses of penicillin G.

Indications: Streptococcus, pneumococcus, and gonococcus infections; infections caused by sensitive strains of staphylococci; prophylaxis of streptococcus infections in patients with a history of rheumatic fever; and prevention of bacterial endocarditis after tonsillectomy and tooth extraction in patients with a history of rheumatic fever or congenital heart disease.

Contraindication: Penicillin hypersensitivity.

Warnings: In rare instances, penicillin may cause acute anaphylaxis which may prove fatal unless promptly controlled. This type of reaction appears more frequently in patients with a history of sensitivity reactions to penicillin or with bronchial asthma or other allergies. Resuscitative drugs should be readily available. These include epinephrine and pressor drugs (as well as oxygen for inhalation) for immediate allergic manifestations and antihistamines and corticosteroids for delayed effects.

Precautions: Use cautiously, if at all, in a patient with a strongly positive history of allergy.

In prolonged therapy with penicillin, and particularly with high parenteral dosage schedules, frequent evaluation of the renal and hematopoietic systems is recommended.

In suspected staphylococcus infections, proper laboratory studies (including sensitivity tests) should be performed.

The use of penicillin may be associated with the overgrowth of penicillin-insensitive organisms. In such cases, discontinue administration and take appropriate measures.

Adverse Reactions: Although serious allergic reactions are much less common with oral penicillin than with intramuscular forms, manifestations of penicillin allergy may occur.

Penicillin is a substance of low toxicity, but it possesses a significant index of sensitization. The following hypersensitivity reactions have been reported: skin rashes ranging from maculopapular eruptions to exfoliative dermatitis; urticaria; and reactions resembling serum sickness, including chills, fever, edema, arthralgia, and prostration. Severe and often fatal anaphylaxis has occurred (see Warnings). Hemolytic anemia, leukopenia, thrombocytopenia, and nephropathy are rarely observed side-effects and are usually associated with high parenteral dosage.

Administration and Dosage: Usual dosage range, 125 mg. (200,000 units) three times a day to 500 mg. (800,000 units) every four hours. For infants, 50 mg. per Kg. per day divided into three doses.

See package literature for detailed dosage instructions for prophylaxis of streptococcus infections, surgery, gonorrhea, and severe infections.

How Supplied: Tablets V-Cillin K, U.S.P., 125 mg. (200,000 units), 250 mg. (400,000 units), and 500 mg. (800,000 units).

V-Cillin K, Pediatric, for Oral Solution, 125 mg. (200,000 units) and 250 mg. (400,000 units) per 5 cc. of solution (approximately one teaspoonful). [042567]

Additional information available to physicians upon request. Eli Lilly and Company, Indianapolis, Indiana 46206.

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Blood, The Jehovah Witness and the Physician

R. T. McDonald, M.D.

Medicine and the Judiciary combine in these outstanding guest editorials. The authors are residents of Flagstaff; our own Dr. Richard T. McDonald and The Honorable Laurance T. Wren, Superior Court Judge of Coconino County.

With 330,000 Jehovah Witnesses in the United States, the problem of a patient refusing to accept blood transfusions will confront nearly every physician some time during his career.

In this article I shall discuss briefly the basis for the belief and the moral issues confronting the physician.

The Witness rejects blood consumption on any basis on scriptural grounds. Apparently, this rejection is based on the assumption that the soul is in the blood and should not be consumed for nourishment. Blood transfusions or any blood products are excluded, even though not eaten, on the basis that it provides nourishment to the body to sustain life. Their beliefs are so inclusive that it even forbids the use of self-transfusions since "God required that shed blood be poured out on the ground."

This refusal places the physician in a very uneasy position at best and at its worst, negates all therapeutic effort by the death of the patient. Therapeutically, many operative procedures can be done without the use of blood, as the Witnesses are all too keenly aware. But as any experienced surgeon can affirm, hemorrhagic complications can and do happen after even the simplest procedure, and in some instances will result in exsanguination and unnecessary death while preparations are being made to control the bleeding source, if the use of blood is denied.

The problem of blood transfusion in Jehovah Witness children is simply solved by having these children placed in the custody of the court. Then the necessary medical treatment including blood transfusion, if necessary, can be carried out. When dealing with adult Witnesses, it seems innocuous to grant a "no blood transfusion" request for a simple procedure. But, if during the course of the treatment, this patient has a major hemorrhagic complication and requires blood to save his life, then where to? Finding himself in this situation, no physician can or should stand by and allow a patient to die who has a reasonable chance of returning to a useful life with the use of blood transfusions. Does this violate the principle of religious freedom? No, any person has the right to believe anything he wishes as long as he doesn't place his life or the lives of others in jeopardy. But upon jeopardizing his or other lives, he no longer has a morally defensible position. Does a father have the right to deprive his family of financial support, love or guidance? Does a Mother have the right to deprive her family of the love and affection only a Mother can give? In a sense, what the Jehovah Witness is attempting is a medical suicide. Certainly it is passive, but suicide none the less. The drowning person who refused to grab the life line commits suicide just as effectively as the person jumping out of a building. Any bystander has a moral obligation to attempt to rescue an individual attempting suicide. The physician's position is really no different. On moral grounds alone, he must do everything within reason to save this patient's life. Including the giving of blood if necessary to prevent this medical suicide. Failure to do so should be severely censured by his medical colleagues.

Prior to operating, it is reasonable for a physician to promise not to use blood with the following qualification. He must reserve the right to institute the use of blood if in his judgement, the patient is in grave danger without its use.

Interestingly enough, in the instances in which I have been forced to transfuse blood to Jehovah Witnesses against their will, the reactions afterwards were most unexpected. It was as if the patient had not violated any religious principle since he had not consented to this procedure in the first place and all the blame must be borne by the physician. Perhaps he is correct in this feeling. In a case of transfusion without consent, one of the reasons the judge issued the transfusion order was "receiving blood by court order and without consent does not constitute a violation of religious conviction."[1]

What did you say the Judge's number was?

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[1] Transfusion without Consent. (Editorial), Journal American Medical Association: Vol. 5: 290, 1964.

STATUS OF THE LAW ON MEDICAL AND RELIGIOUS CONFLICTS IN BLOOD TRANSFUSIONS

Laurance T. Wren
Judge of the Superior Court

Late one evening the quiet solitude of my home was shattered by an emergency call. A surgeon at the Flagstaff Community Hospital was on the phone. The problem he presented sent me racing to the County Law Library to research a knotty legal problem which I had never before encountered.

A patient on the operating table was hemorrhaging severely and only an immediate blood transfusion would save his life. He was, however, a member of the Jehovah's Witness Sect, and had, prior to the operation expressly refused consent to any such transfusion. Honestly believing additional blood would not be necessary, the doctor had assured him his religious beliefs would not be violated.

The attorney for the hospital staff joined me at the library, but a quick check of the authorities reflected no clear cut solution to a very enigmatic question. The doctor wanted very much to save a human life. He had taken the oath of Hippocrates to "follow that method of treatment which, according to his ability and judgment, he considered for the benefit of his patients."

But what were the consequences? Not only had the unconscious patient in a preoperative consultation expressly refused to consent, but his wife, contacted outside the operating room, also refused permission, even though told her spouse would not survive unless blood was transfused into his veins.

An order was entered on the physician's affidavit of necessity directing him to proceed with the administration of blood. To adopt the words of Judge J. Skelly Wright in a similar situation:

> "I, admittedly, entered the order requiring the transfusion for the reason that death could have mooted the cause in a matter of minutes if action were not taken. To refuse to act only to find later that the law required action was a risk I was unwilling to accept. I determined to act on the side of life."

A patient's life had been saved. The doctor had lived up to his oath, but who was right and who was wrong? What would have been the consequences of a lawsuit had one been filed? A grateful wife later acknowledged her relief and gratitude to the tired surgeon. Her husband's life had been spared and her religious conscience was still clear.

Had I erred in putting the stamp of legality on what might be called a medical usurpation of the rights of an individual? A basic constitutional precept is that no person shall be deprived of life, liberty or property without due process of law. Had the court order here undermined the constitutional guarantees of due process of law and free exercise of religion? Because in the case of Jehovah's Witnesses the basic reason for rejection of blood transfusions is their worship. They believe that the Bible prohibits the use of blood from any creature to sustain life; that it was part of the law God gave to Noah. Hence, freedom of religion is involved. The First Amendment to the U. S. Constitution guarantees that "Congress shall make no law respecting the establishment of religion or prohibiting the free exercise thereof." And a basic right of every American is to "worship God according to the dictates of his own conscience."

The doctor involved later requested that I join him in co-authoring an article on this subject, and I promptly agreed. My interest had been fired by our bizarre and somewhat harrowing experience, and this time the good doctor allowed ample time to think and prepare.

The matter is not without judicial precedent. In fact, the Supreme Court of Illinois struck down a similar order to proceed with blood injection. In Brooks Estate v. Brooks,[1] the following questions were presented: Is it an infringement of the constitutional guarantee of freedom of worship to deny one the right to reject unwanted medical treatment? When one's action or refusal to act does no harm to the society of which he is a part can treatment that violated his religious beliefs properly be fostered on him?

The court responded with resounding support of the religious belief:

> "Even though we may consider appellant's beliefs unwise, foolish and ridiculous, in the absence of an overriding danger to society we may not permit interference therewith. In the final analysis what has happened here involves a judicial attempt to decide what course of action is best for a particular individual notwithstanding that individual's contrary views based upon religious convictions. Such action cannot be constitutionally countenanced."

The Witnesses maintain in their literature that they are not religious fanatics, that they do not hate life, they love it, but are willing to give up a few years in this corrupt system in order to gain God's approval and everlasting life in a far, far better arrangement.[2] They liken their cause to the deification of early Christian martyrs who allowed their children to die in the lions' jaws rather than renounce their faith, and, therefore, condemn the courts for the modern day invasion of their religious beliefs that no foreign blood should enter the bodies of their children.

This belief finds some support in the profession. Dr. Arthur Kelly, Secretary of the Canadian Medical Association, has been quoted as saying:

> "I believe that parents of minors and the next of kin of unconscious patients possess the right to interpret the will of the patient and that we should accept and respect their wishes."

What is the present status of our law? As a general proposition, a conscious adult patient who is mentally competent has the right to refuse medical treatment even when the best medical opinions deems it essential to save his life.[3]

Cases enunciating the rule that an emergency gives the physician a privilege to treat the patient without his consent involve those incapable of manifesting a refusal, either because of unconsciousness or minority. No case has applied the "emergency rule" in the face of a competent patient's express refusal to consent. Neither humanitarianism nor the skillful performance of treatment is a defense to a lawsuit for battery in such a case.

Into what category do we place the midnight case at the Flagstaff Hospital? Without the patient's consent, the surgeon would have refused to perform the operation if the need for a blood transfusion could have been anticipated. A sudden and completely unanticipated loss of blood threw the doctor into a dilemma not of his own making. Even without a court order, I submit that the administration of necessary treatment would have been legally proper under the emergency rule.

Normally a court order will insulate the physician from actionable responsibility. But the authorities, what few there are, are not uniform. In Collins v. Davis,[4] an application for an order permitting surgical operation on a patient was granted, where the patient was in a comatose state and could not give consent; his wife having refused consent, and evidence having established that if the operation were not performed he would die. The court pointed out that the patient had sought medical attention from the hospital and had placed on the hospital the legal responsibility for his care. Without a consent the hospital doctors had the choice of performing the operation or letting him die. It cannot be reasonably said that the comatose patient and his wife should or could put the hospital to this impossible choice. Life hung in the balance. The opinion also pointed out that it did not involve a person who for religious or other reasons had refused to seek medical attention. The Brooks case, cited above, was decided the following year by the Supreme Court of Illinois.

Another Court[5] took the view that a judicially ordered blood transfusion could properly be administered to a pregnant patient, when such was necessary to save her life, even though she and her husband had refused to authorize transfusions because of their religious beliefs, upon the grounds that it would be justified in the interest of protecting the unborn child, and the woman had told the judge issuing the order that, if ordered, the transfusion would not be her responsibility. If the Court therefore undertook the responsibility, the sanctity of her religious convictions would not be violated.

Recently in New York[6] blood transfusions were ordered on the petition of a patient's husband that same were necessary to save her life following a Caesarian section. Again, the upper court commented on the fact that in the judge's view she was willing to accept such treatment although, because of her religious beliefs, she would not direct its use.

Clearly the Court, in each of these instances, was leaning over backwards to justify a means reasonably believed necessary to save life. Just as clearly, though, an ex parte order issued without a hearing or opportunity to be heard by the affected party overlooks procedural safeguards which form the barrier between rule by law and rule by whim or caprice.

It is seriously doubted, however, that the medical profession, or the law, in the case of minor children, will ever place the stamp of approval on the refusal of parents to permit blood transfusions believed medically necessary. Arizona, in fact, has a specific law on the subject. Sec. 44-133 A.R.S. reads:

> "Emergency consent for hospital care, medical attention or surgery by person in loco parentis
>
> Notwithstanding any other provisions of the law, in cases of emergency in which a minor is in need of immediate hospitalization, medical attention or surgery and after reasonable efforts made under the circumstances, the parents of such minor cannot be located for the purpose of consenting thereto, consent for said emergency attention may be given by any person standing in loco parentis (in place of parent) to said minor."

Liability in transfusing a child member of the sect, despite the nonconsenting parent, is avoided generally by showing that a failure to do so would jeopardize the life of the child, and by a court appointed guardian authorized to give consent.[7] The consent of the minor himself, unless emancipated, would be held ineffective to relieve the doctor or hospital of responsibility.

Certain conclusions, therefore, appear sound. An adult person may refuse to receive a transfusion, however desperate the need in medical opinion, and his refusal, generally, must be honored. The attending physician or hospital may, however, seek an order authorizing the rejected treatment. This order if properly obtained will generally insulate them from legal responsibility. Without such it would quite accord with legal principles if a jury awarded damages for battery to a patient who refused his consent to a transfusion, even though the patient's life was saved thereby and the transfusion resulted in no injury to him. The insult to the person of a member of the Witnesses could support a recovery of "general" damages and the amount thereof lies largely in the discretion of the jury.

It is, of course, unlikely that a jury would award more than nominal damages in such a case. Where harm resulted to the patient from a transfusion, however, a strong case for recovery would arise, no matter how careful the administration of blood.

It is recommended that no medical or surgical procedure be performed within the hospital in the face of a patient's refusal unless an order of the court is obtained. The refusal should be noted in the medical record and the physician should render the best care possible within the limits imposed by the patient's refusal. It is advisable in such case to secure a release to make it perfectly clear that the appropriate treatment would have been rendered had the patient not refused the treatment.

In the light of these decisions it is advisable that hospitals and physicians seek the advice of legal counsel when faced with a nonconsenting patient, and when a serious threat to health exists. Conceivably the risk of liability, such as it might be, for treatment which saves the life of a patient should be accepted where time does not permit resort to the courts. It is perhaps advisable that the hospital administrator, with the aid of legal counsel, formulate a policy regarding treatment when consent has been refused, and establish an administrative procedure to facilitate application for a court order when one is needed and time permits.

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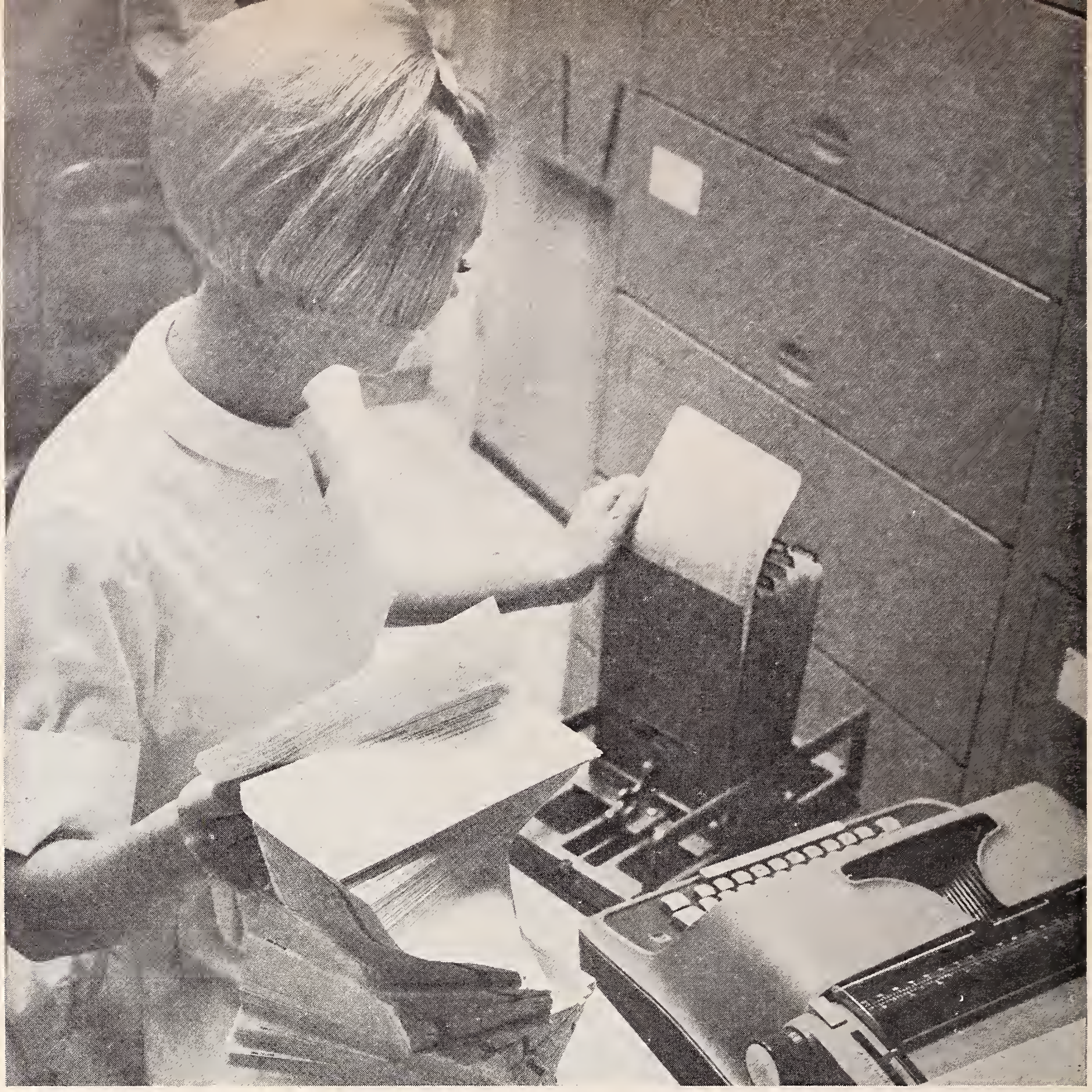
2. "Awake," May 22, 1967
3. Erickson v. Dilgard, 252 NYS 2d 705, Sup, Crt. (1962)
4. 254 NYS 2d 666
5. In re: Application of the President and Director of Georgetown College, Inc., 331 F. 2d 1000 (1964)
6. Powell v. Columbia Presbyterian Medical Center, 267 NYS 2d 450 (1965)
7. Wallace v. Labrenz, 411 Ill. 618, 104 NE 2d 769 (1952)

Career Resumé

1943-1944	Arizona State College.
1946-1951	Arizona State College, BA Degree.
1944-1945	University of New Mexico, V12 Officers Training Program.
1945	University of Notre Dame, Midshipman's School, Comm. Ensign U.S.N.
1951-1955	University of California Law at Los Angeles, LLB Degree granted Jan. 27, 1955.
1955-1957	Deputy County Attorney, Coconino County, Flagstaff, Ariz.
1957-1961	County Attorney, Coconino County, Flagstaff, Ariz.
1961-	Superior Court Judge, Coconino County, Flagstaff, Ariz.

"COCA-COLA" AND "COKE" ARE REGISTERED TRADE-MARKS WHICH IDENTIFY ONLY THE PRODUCT OF THE COCA-COLA COMPANY.



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First of all, because they're *simpler* and take less time than most of the others. What's more, Blue Shield pays off *twice* monthly—usually before your patient-billing date. If you think we may be going out of our way to make things easy for you and your office, you're right! Because, without the help of the medical profession we could not exist! And your patients couldn't receive so many important health benefits so economically.

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BLUE *Shield*

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A Building Block approach to treating hypertension

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With these three therapeutic building blocks you can create a once-a-day regimen to fit almost any degree of hypertension. See the following pages for details . . .

Consider starting your hypertensives on this basic thiazide

ABBOTT

A single daily dose of Enduron provides sodium excretion around the clock

Enduron is a true 24-hour single-dose thiazide. Its sodium excretion is not squeezed into an abrupt peak during the first several hours. It is well-sustained in a plateau-like effect—with little reduction for the first 12 hours, and decline thereafter only gradual.

Potassium loss, by contrast, is low. It reaches an early minor peak, then subsides rapidly. Moreover, since dosage is but once a day, there is but one daily peak of potassium loss. As with all thiazides, however, dietary potassium supplementation should also be considered, especially in long or intensive therapy.

Use Enduron as an ideal starting therapy in mild hypertension. Use it too, as a basic therapeutic building block with which other agents can be joined, for managing your more resistant hypertensives.

Once a day, every day

ENDURON®
METHYCLOTHIAZIDE

DAILY DOSAGE RANGE	Minimum	Usual	Intermediate	Maximum
	2.5 mg. tablet	5 mg. tablet	7.5 mg.	10 mg.

See Brief Summary on final page of advertisement.

To build added response, shift to Enduronyl

ABBOTT

The deserpidine component adds enhanced antihypertensive activity

The rauwolfia component of Enduronyl is deserpidine (Harmonyl®), a purified crystalline alkaloid supplied only by Abbott. It augments Enduron with its own antihypertensive and tranquilizing action.

Thus the combined clinical effect of these two therapeutic building blocks in Enduronyl is greater than can ordinarily be achieved with either alone.

To add flexibility, Enduronyl comes in two strengths: regular and Forte. Both provide 5 mg. of Enduron. The variation is where most helpful: in the deserpidine. The tablets are scored, and give a surprisingly wide and economical choice of once-a-day doses (see below).

Choose Enduronyl for your patients in the broad range of mild to moderate hypertension. Patient acceptance is excellent!

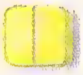
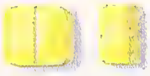
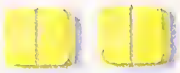
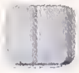
Once a day, every day

ENDURONYL®

METHYCLOTHIAZIDE 5 MG. WITH DESERPIDINE 0.25 MG.

ENDURONYL FORTE

METHYCLOTHIAZIDE 5 MG. WITH DESERPIDINE 0.5 MG.

	Minimum	Usual	Intermediate	Maximum
DAILY DOSAGE RANGE	 2.5 mg. methyclothiazide 0.125 mg. deserpidine	 5 mg. methyclothiazide 0.25 mg. deserpidine	 7.5 mg. methyclothiazide 0.375 mg. deserpidine	 10 mg. methyclothiazide 0.5 mg. deserpidine
DAILY DOSAGE RANGE	 2.5 mg. methyclothiazide 0.25 mg. deserpidine	 5 mg. methyclothiazide 0.5 mg. deserpidine	 7.5 mg. methyclothiazide 0.75 mg. deserpidine	 10 mg. methyclothiazide 1 mg. deserpidine

See Brief Summary on final page of advertisement.

707075-R

Eutonyl affords a different kind of basic therapy for moderate to severe cases

ABBOTT

Effect tied to reduced peripheral vascular resistance; no central depressant action

Eutonyl is a unique nonhydrazine agent. It is reported to act by reducing peripheral vascular resistance.[1,2]

In clinical trials, significant reductions in mean blood pressure were seen in 84% of patients studied—all were moderate to severe cases. Eutonyl lowers diastolic in proportion to systolic, and in about half of the cases studied, reductions in the sitting and recumbent positions were nearly as great as in the standing position.

Most important: There is no central depressant action. In fact, some patients reported an *increased* sense of well being.

Here, then, is a highly effective *basic treatment* for moderate to severe cases—and one that will not hamper your patient with lethargy or drowsiness while on treatment.

Once a day, every day

EUTONYL®
PARGYLINE HYDROCHLORIDE

DAILY DOSAGE RANGE	Minimum	Usual starting	Intermediate	Maximum
	10 mg. tablet	25 mg. tablet	50 mg. tablet or as needed	200 mg.

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1. Brest, A. N., et al., Cardiac and Renal Hemodynamic Response to Pargyline, Ann. N. Y. Acad. Sci., 107-1016, 1963.
2. Winsor, T., Pargyline Hydrochloride, Hypertension, Urinary Tryptamine, and Vascular Reflexes, Geriatrics, 19:598, Aug., 1964.

See Brief Summary on final page of advertisement.

Eutron adds thiazide for enhanced therapy with milder side effects

ABBOTT

Only a 7/4 mm. span between standing and recumbent pressures in clinical trials—reduced chance of orthostatic hypotension

The combining of Eutonyl and Enduron in Eutron permits a significantly greater antihypertensive effect than with either agent used alone. This in turn may allow therapeutic success with lesser dosage—and correspondingly milder side effects.

A significant finding in clinical trials was the drug's action in lowering blood pressure to *nearly equal levels in all body positions*. Total average spread between standing and recumbent readings (after treatment) was only 7/4 mm. Hg.

Thus, in your moderate to severe cases, Eutron affords a usually smooth course of therapy, often with reduced likelihood of orthostatic effects. (The usual precautions against rising suddenly, of course, will always apply.) And, because of the thiazide component, Eutron may be used in the presence of congestive heart failure.

Once a day, every day

EUTRON™

PARGYLINE HYDROCHLORIDE 25 MG.
WITH METHYCLOTHIAZIDE 5 MG.

	Minimum	Usual starting	Intermediate	Maximum
DAILY DOSAGE RANGE	12.5 mg. pargyline hydrochloride and 2.5 mg. methyclothiazide	25 mg. pargyline hydrochloride and 5 mg. methyclothiazide	37.5 mg. pargyline hydrochloride and 7.5 mg. methyclothiazide	50 mg. pargyline hydrochloride and 10 mg. methyclothiazide

See Brief Summary on final page of advertisement.

TM—Trademark

707075-R

ENDURON®

METHYCLOTHIAZIDE

ENDURONYL®

Each tablet contains
Methyclothiazide 5 mg. with
Deserpidine 0.25 mg. or 0.5 mg.

Indications: Enduron is used to control edema and mild to moderate hypertension; also used with other drugs for hypertension. Enduronyl is used in mild to moderately severe hypertension; when used with Enduronyl, more potent agents can be given at reduced dosage to minimize undesirable side effects.

Contraindications: Neither Enduron nor Enduronyl should be used in severe renal disease (except nephrosis) or shutdown; in severe hepatic disease or impending hepatic coma; in patients sensitive to thiazides. Hepatic coma has been reported as a result of hypokalemia in patients receiving thiazides.

Enduronyl is contraindicated in patients with severe mental depression and suicidal tendencies, active peptic ulcer, or ulcerative colitis.

Warnings: Consider possible sensitivity reactions in patients with a history of allergy or asthma. If added potassium intake is indicated, dietary supplementation is recommended. Enteric-coated potassium tablets should be reserved for cautious use only when adequate dietary supplementation is not practical because those tablets may induce serious or fatal small bowel lesions consisting of stenosis with or without ulceration. These small bowel lesions have caused obstruction, hemorrhage and perforation frequently requiring surgery. Medication should be discontinued immediately if abdominal pain, distension, nausea, vomiting or GI bleeding occurs.

Precautions: Use thiazides with caution in severe renal dysfunction, impaired hepatic function, or progressive liver disease. In surgical patients, thiazides may reduce the response to vasopressors and increase the response to tubocurarine. Use thiazides with caution in pregnancy (bone marrow depression, thrombocytopenia, or altered carbohydrate metabolism have been reported in certain newborn infants). Also reported have been: blood dyscrasias including thrombocytopenia with purpura, agranulocytosis and aplastic anemia; elevations of BUN, serum uric acid, or blood sugar. Symptomatic gout may be induced. Antihypertensive response may be enhanced following sympathectomy.

Use Enduronyl with caution in patients with a history of peptic ulcer, as rauwolfias may increase gastric secretion. Discontinue at the first sign of mental depression. Rauwolfia alkaloids may increase hypotensive effects of surgery or anesthesia, and should be discontinued two weeks prior. They also lower the convulsive threshold and shorten seizure latency. In epilepsy, dosage adjustment of anticonvulsant medication may be necessary. Alcohol, barbiturates, or narcotics may potentiate action of deserpidine.

Adverse Reactions: During intensive or prolonged therapy, guard against hypochloremic alkalosis and hypokalemia (especially the latter if patient is on digitalis). All patients should be observed for signs of hyponatremia ("low-salt" syndrome). Reported thiazide reactions include: anorexia, nausea, vomiting, diarrhea, headache, skin rash, dizziness, paresthesia, weakness, photosensitivity, jaundice, and pancreatitis.

Reported rauwolfia reactions include: nasal stuffiness, nausea, weight gain, diarrhea, aggravation of peptic ulcer, epistaxis, skin eruption, and reduction of libido and potency. Excessive drowsiness, fatigue, weakness, and nightmares may signal early signs of mental depression.

EUTONYL®

PARGYLINE HYDROCHLORIDE

EUTRON™

Each tablet contains
Pargyline Hydrochloride 25 mg.
with Methyclothiazide 5 mg.

Indications: For treatment of patients with moderate to severe hypertension, especially those with severe diastolic hypertension. Not recommended for patients with mild or labile hypertension amenable to therapy with sedatives and/or thiazide diuretics alone. It is desirable to establish the dosage of Eutron by administering component drugs separately.

TM-Trademark.

Contraindications: Pheochromocytoma, advanced renal disease, increasing renal dysfunction, paranoid schizophrenia and hyperthyroidism. Hepatic coma has been reported as consequence of hypokalemia with thiazide therapy. Until further experience is gained not recommended for patients with malignant hypertension, children under 12, or pregnant patients.

Concomitant use of the following is contraindicated: other monoamine oxidase inhibitors; parenteral forms of reserpine or guanethidine; sympathomimetic drugs; foods high in tyramine such as cheese; imipramine and amitriptyline, or similar antidepressants; methyldopa. 2 week interval should separate therapy and use of these agents.

Methyclothiazide is contraindicated in patients with known sensitivity to thiazides.

Warnings: Pargyline hydrochloride is a monoamine oxidase inhibitor. Warn patients against eating cheese, and using alcohol, proprietary drugs or other medication without the knowledge of the physician. When indicated, alcohol, narcotics (meperidine should be avoided), antihistamines, barbiturates, chloral hydrate, and other hypnotics, sedatives, tranquilizers, or caffeine, may be used cautiously in reduced dosage. In emergency surgery ¼ to ⅕ the usual dose of narcotics, analgesics, and other premedications should be used avoiding parenteral administration where possible. Carefully adjust dose of anesthetics to response of patient. Withdraw pargyline two weeks before elective surgery.

Warn patients about the possibility of postural hypotension. Those with angina or coronary artery disease should not increase physical activity with an improvement in well being. Pargyline may lower blood sugar.

Avoid use of enteric-coated potassium tablets, as these may induce serious or fatal small-bowel lesions consisting of stenosis with or without ulceration. These small-bowel lesions have caused obstruction, hemorrhage and perforation frequently requiring surgery. Medication should be discontinued immediately if abdominal pain, distension, nausea, vomiting or GI bleeding occurs. These products contain no added potassium salts and if added potassium intake is desired, dietary supplementation is recommended. Coated potassium tablets should be reserved for cautious use when adequate dietary supplementation is impractical. In patients with a history of allergy or asthma the possibility of sensitivity reactions should be considered.

Precautions: Measure blood pressure while patient is standing to determine antihypertensive effect. Use with caution in hyperactive or hyperexcitable persons. Such persons may show increased restlessness and agitation. Withdraw drug during acute febrile illness. Watch patients with impaired renal function for increasing drug effects or elevation of BUN and other evidence of progressive renal failure; withdraw drug if such alterations persist and progress. Use with caution in patients with liver disease. As with all new drugs, complete blood counts, urinalyses, and liver function tests should be performed periodically. With prolonged therapy, examine patients for change in color perception, visual fields and fundi. Also reported have been: blood dyscrasias including thrombocytopenia with purpura, agranulocytosis and aplastic anemia; elevations of BUN, serum uric acid, or blood sugar. Symptomatic gout may be induced. In surgical patients thiazides may reduce response to vasopressors and increase response to tubocurarine.

Adverse Reactions: Pargyline may be associated with orthostatic hypotension. Mild constipation, slight edema, dry mouth, sweating, increased appetite, arthralgia, nausea and vomiting, headache, insomnia, difficulty in micturition, nightmares, impotence, delayed ejaculation, rash, and purpura have been encountered with pargyline. Hyperexcitability, increased neuromuscular activity (muscle twitching) and other extrapyramidal symptoms have been reported in a few patients with reduced cardiac reserve.

During intensive or prolonged therapy, guard against hypochloremic alkalosis and hypokalemia (especially the latter if patient is on digitalis). Observe all patients for signs of hyponatremia ("low salt" syndrome).

Reported thiazide reactions also include anorexia, nausea, vomiting, diarrhea, headache, dizziness, paresthesia, weakness, skin rash, photosensitivity, jaundice, and pancreatitis. Nocturia has been observed with the combination.

709075R

ABBOTT

John W.McKinstry, M.D.
1931-1967

Doctor John McKinstry is dead. He died while water skiing during a vacation in Mexico with his wife, Mikie. Thirty-six is somehow too young to die, particularly for a man like John who so loved to live.

John was born in New Brunswick, New Jersey, but attended school in Indiana. He received his BA from Indiana University in 1957, and in 1961 his doctorate in medicine. He interned at St. Joseph's Hospital in South Bend, Indiana. John came to Phoenix in the summer of 1962, and joined the staff of the John C. Lincoln Hospital. Shortly thereafter, he became associated with Doctor David Haggar. After a short period of solo practice in 1963, he reassociated with Doctor Haggar, in 1966, where he remained until his death.

John was a complex guy—a man about whom few persons felt bland. He was a competent and conscientious physician, and his patients were loyal. They frequently traveled many miles out of their way in order to have "Doctor John" minister to their needs. He was a dreamer with a rich fantasy life, which included such things as living and practicing in the Middle East. John worked hard at his chosen profession, and when he played, he played hard, making every minute count. He was a civic-minded guy, who was a dedicated and active member of the Maricopa County Medical Society, and the AMA. He recently joined the Deer Valley Lion's Club.

John is survived by his wife, Michelle; daughter, Theresa; stepdaughters, Kim and Kelly; sons, John, Richard and Gary; and by his mother, Mrs. Rose McKinstry.

A mutual friend describes John: "To know him was to love him—he was always there when you needed him." Some of his patients have expressed the same kind of thing to me.

As a friend, a neighbor, and a colleague, I will miss John, as I am sure many others will. To me he was a man who symbolized living to its fullest. Thirty-six is somehow too young for a man to die. Adios, John. Hasta la vista.

Kent E. Durfee, M.D.

Meade Clyne, M.D.
1882-1967

Doctor Meade Clyne was born in Plainfield, Illinois, on April 30, 1882. His family later moved to Joliet, Illinois, where he attended school. He graduated from Northwestern University Medical College in 1907 and had his internship at Wesley Teaching Hospital in Chicago. In 1910, he moved to Tucson, Arizona, for health reasons. He recovered his health and in 1912 he opened an office in Tucson with special attention to surgery and obstetrics.

Doctor Clyne gave many years of service to his profession and to the Community. He was the past president of the Arizona State Medical Association and the Pima County Medical Society. He organized the Arizona Chapter of the American College of Surgeons and was its first president. He organized and formed the first Rotary Club in Tucson and was its first president. He was the past chairman of the Board of Directors of the American Red Cross. He had also been president of the Tucson Sunshine Climate Club and a member of the Board of Directors of the Chamber of Commerce. In 1919 he organized a partnership with Doctor Samuel Watson which organization later became known as the Tucson Clinic.

Doctor Clyne was regarded in the highest possible fashion in the Community and by his patients. His judgement and counsel were most highly regarded by his associates in medicine and by organizations he was involved with as well as by his patients. He was diligent, dutiful and skillful, and brought great credit to the medical profession.

W. R. Hewitt, M.D.

Samuel E. Light, M.D.

1896-1967

Dr. Samuel Light passed away suddenly on Thursday, May 4, 1967. The exodus was sudden and merciful. He was in his office in Sun City, Arizona, when he was overcome by myocardial infarction. His memorial service in Youngtown was attended by a very large gathering of friends Sam had met in the comparatively short time he had been in Arizona. Sam was in apparently good health and was assiduously attending to his hobbies, "gardening and puttering," as well as caring for a growing clientele in his dermatology offices until the final moment.

Dr. Light was born in Illinois, but was raised in Nebraska. He served his country during World War I, and determined to go into medicine shortly thereafter. Dr. Light was a graduate of the University of Nebraska College of Medicine. He interned at the Northern Pacific Hospitals of Missoula and Tacoma. His training in Dermatoltgy was at the Stanford University Clinic, and The New York Skin and Cancer Hospital. Sam successfully passed the American Board of Dermatology in 1939. In 1931 he began his practice in Tacoma where he continued until 1962, at which time he went south to raise citrus and take care of the dermatologic problems in the retirement complex of Youngtown-Sun City.

Sam's professional societies were numerous and he kept up with his reading and professional meetings as few are able or inclined to do. He was fastidious in his habits and possessed a dry, witty sense of humor. He touched the lives of many along the way through his work and his organizations. He was a member of Tacoma Rotary for many years and continued on in the Sun City Club. He was a member of Immanuel Presbyterian Church in Tacoma for over 30 years.

He was active up until the end, and his sister is quoted as saying, "Well, I'm glad he went that way as I don't think Sam could stand old age."

William O. Minturn, M.D.

Charles N. Ploussard, M.D.

1897-1967

We all mourn the loss of Dr. Charles Nicholas Ploussard who died in Phoenix on June 25, 1967. He was beloved equally by his medical colleagues and by his many patients scattered throughout the valley. At one time he had the largest medical practice including much Industrial work in Phoenix. He was an honor graduate from St. Louis University Medical School and did four years Surgical training and one year Urological training at City Hospital in St. Louis. He came to Flagstaff as Mill Surgeon for the lumber company in 1924. He came to Phoenix in 1928 and was in active general practice until about six years ago. He was one of the all time great physicians of Phoenix and was well known for his outstanding skill in surgery. He was a certified fellow of the International College of Surgeons and a fellow of the American College of Surgeons. He was very active as a medical officer of Brophy College and St. Mary's High School, being particularly intersted in injuries sustained by the boys during athletic activities. He served as a Lieutenant in the Army Medical Corps in World War I. He was a member of the Arizona and American Medical Assns., Maricopa County Medical Society, Phoenix Chamber of Commerce, American Legion, Rotary Club, Phoenix Country Club and the Elks Club. He was a fourth degree Knight of Columbus, Marcos de Niza council.

He was a devout Catholic and was very active on the Staff of St. Joseph Hospital and did much to enhance the reputation of the hospital both by his services and donations. The great grief in his life was the loss of his son, Charles, who had served with the Armed Forces in Korea and had just finished premedical school in 1954 and would have thus been able to carry on the great name of Ploussard in the medical profession had he lived. Dr. Ploussard in his younger days was noted for his cheerfulness, tremendous vigor and mental acuity and was often referred to as "Cheerful Charlie" by his more intimate friends. I had the privilege of being associated with him in practice for five years through the latter part of his career and after the loss of his son, Charles, when he had lost some of his early zest for life; therefore, the more carefree and happy Dr. Ploussard was really not known to me. In spite of his grief Dr. Ploussard put up a wonderful front and when I knew him he still had his old charm and was always one of the best dressed doctors in Phoenix. At rodeo time he only lacked a horse to qualify him as leader of the parade, so excellent was his western attire.

I valued very much the opportunity of being associated with such a distinguished physician. His example of kindness to his patients and his generosity in both thought and deed with the many people with whom he came in contact will always be remembered by me and will serve as an example for me to follow, however trying the circumstances.

He is survived by his son, Nicholas, who has all the charm and brilliance of his father and who will undoubtedly be of equal credit to the family in one or other of the professions or whatever his endeavors. Our sympathy goes out to his wife, Elizabeth, and other members of the family, including his three charming daughters, Betty, Marie and Patricia, and his son, Nicholas.

F. W. Allinson, M.D.

HOBBY HORSE RANCH SCHOOL

A School For Exceptional Children

The Hobby Horse Ranch School is both home and school for a small group of children. It welcomes the child who is mentally retarded and physically handicapped as well as the backward child who suffers no physical handicap.

The Hobby Horse Ranch School is a branch of Fairview School in Fishkill, New York which was established in 1936.

Directors: Blanche C. Lightowler, B.A.
Matthew W. Lightowler

P.O.B. 44, Cortaro, Ariz.

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Before prescribing, see complete prescribing information in SK&F literature or *PDR.* A brief precautionary statement follows.
Contraindications: Glaucoma, prostatic hypertrophy, stenosing peptic ulcer, pyloroduodenal obstruction, or bladder neck obstruction.
Precautions: Use cautiously in the presence of hypertension, hyperthyroidism, coronary artery disease; warn vehicle or machine operators of possible drowsiness.
Usage in Pregnancy: Use cautiously, especially in the first trimester. *Note:* The iodine in isopropamide iodide may alter PBI test results and will suppress I^{131} uptake; discontinue 'Ornade' one week before these tests.
Adverse Reactions: Drowsiness; excessive dryness of nose, throat or mouth; nervousness; insomnia. Other known possible side effects of the individual ingredients: nausea, vomiting, diarrhea, rash, dizziness, fatigue, tightness of chest, abdominal pain, irritability, tachycardia, headache, difficulty in urination. Thrombocytopenia, leukopenia and convulsions have been reported but no causal relationship has been established.

**a stuffy nose
is no
laughing matter**

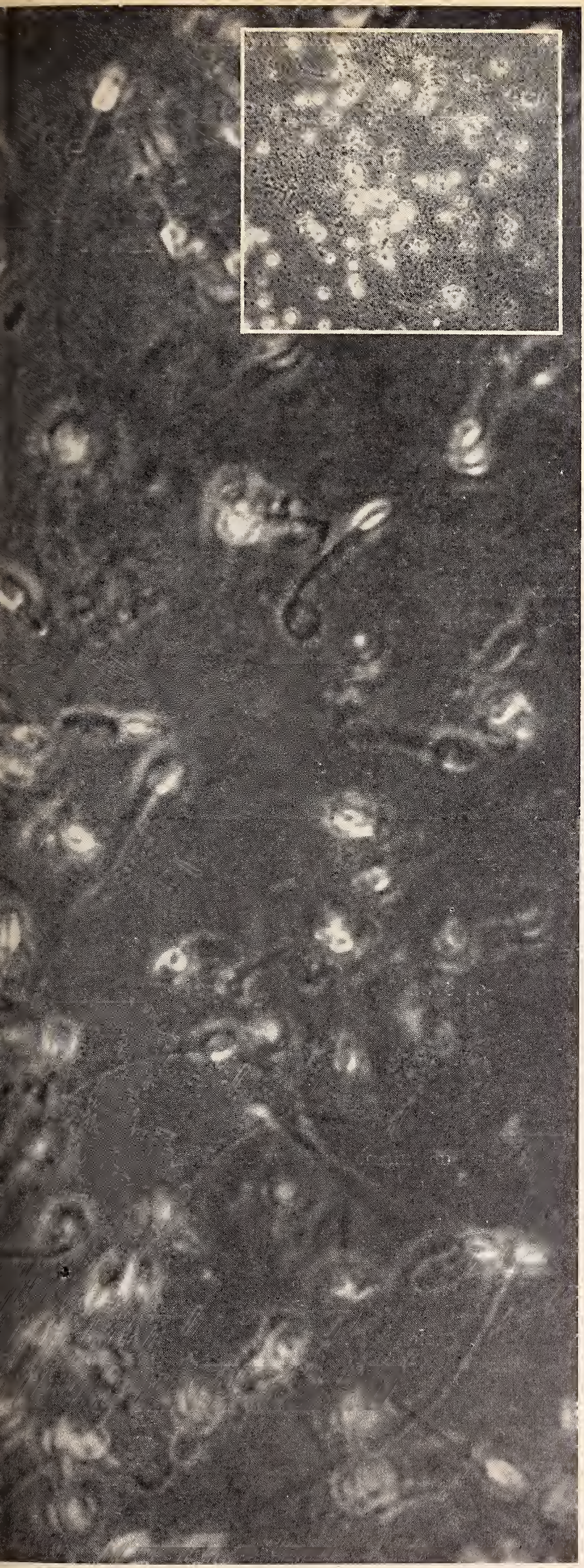
Ornade® Trademark

Each capsule contains 8 mg. of Teldrin® (brand of chlorpheniramine maleate), 50 mg. of phenylpropanolamine hydrochloride, and 2.5 mg. of isopropamide, as the iodide.

Spansule® Capsules
brand of sustained release capsules

**each one can
give him all-day
or all-night relief**

SK&F Smith Kline & French Laboratories



New view of an oral contraceptive at work

Although suppression of ovulation remains the primary mode of action of oral contraceptives, newer knowledge indicates that products like Norinyl-1—a combination of both low-dosage progestogen and estrogen for the full treatment cycle—may provide multiple action that helps explain their unexcelled record of contraceptive effectiveness. This report explores the possible secondary protective mechanisms offered by combined hormonal administration.

Accumulating evidence has indicated that sparse, highly viscous cervical mucus has a possible adverse effect on the motility and survival of spermatozoa.

The estrogen-opposing progestational ingredient of Norinyl-1 (norethindrone 1 mg. with mestranol 0.05 mg.) changes the usual midcycle picture of a thin, watery cervical mucus. The result—a built-in barrier that appears to inhibit sperm from reaching the ovum should one be released. The inset in the adjoining photograph shows immobile spermatozoa as they appear in cervical mucus taken from a patient treated with Norinyl-1.

See last page for contraindications, precautions, side effects and dosage.

How the estrogen-opposing action of Norinyl-1 creates cervical mucus that may be hostile to sperm penetration

Normally, estrogen activity during the fertile midcycle stimulates the production of a profuse and watery cervical mucus that permits maximum sperm motility and promotes penetration.

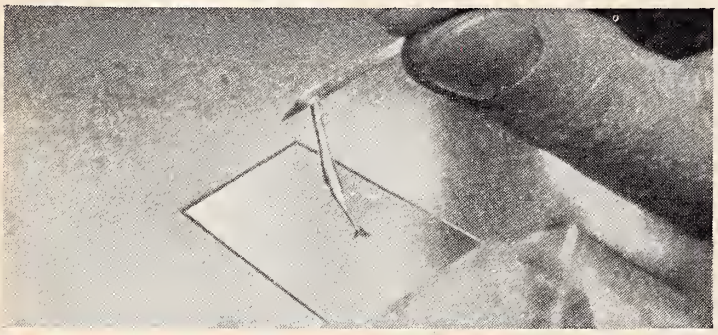
But what happens when Norinyl-1 is administered? Its potent progestogen, norethindrone, opposes estrogen stimulation of cervical mucus. Consequently, the amount of mucus decreases and its viscosity increases. This results in a sparse but thick mucus barrier that appears to diminish the vitality of the sperm and to impair its powers of penetration.

The role of viscous cervical mucus as a secondary action of Norinyl-1

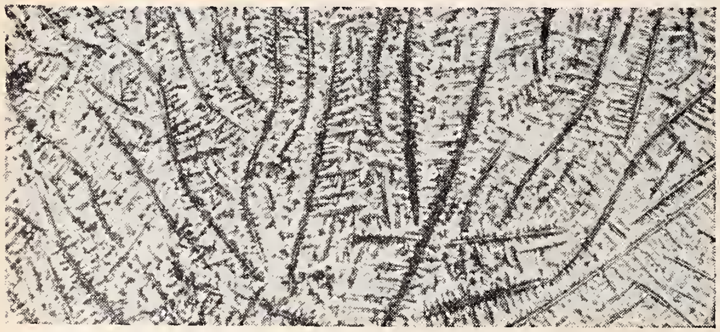
In a report on 89 patients taking this medication,[*] cervical mucus obtained from cycle day 5 to cycle day 29 appeared scant and thick and exhibited little or no Spinnbarkeit.

In the opinion of this investigator, the effect on cervical mucus may be sufficient to prevent conception.

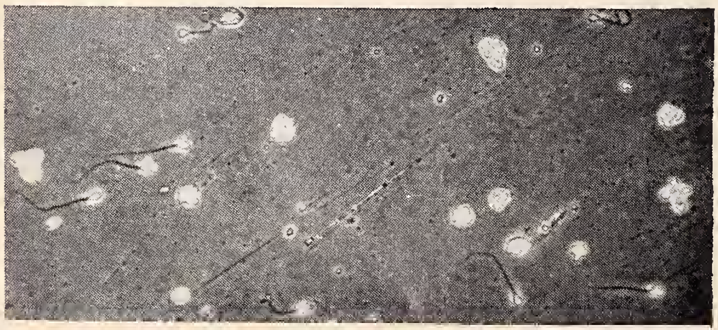
Normal cervical mucus at midcycle in untreated patient is known to permit sperm motility... promote sperm penetration.



Cervical mucus is thin and watery with a stretchability (Spinnbarkeit) of 15 to 20 cm.

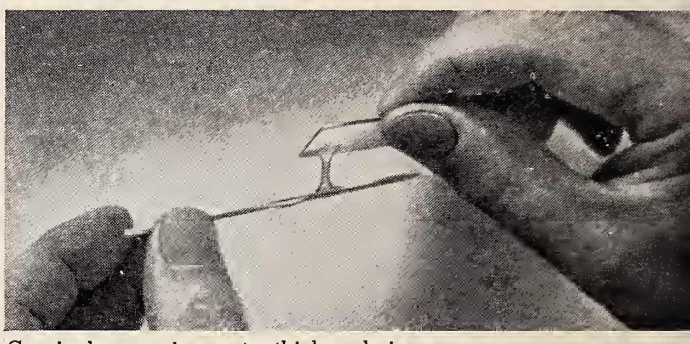


Thin, watery mucus crystallizes into this well-defined, fernlike pattern within a minute.

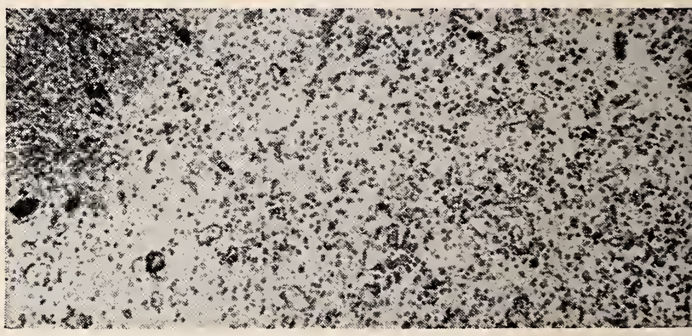


Spermatozoa appear healthy, are active and freemoving.

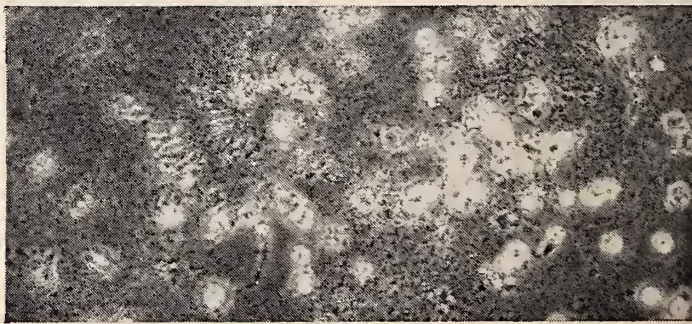
Viscous cervical mucus at midcycle produced by Norinyl-1 appears to impair sperm vitality... inhibit penetration.



Cervical mucus is scanty, thick and viscous. Spinnbarkeit is 1 cm. or less.



In thick, viscous cervical mucus the fern pattern is poorly defined or absent.



Immobile spermatozoa as they appear in cervical mucus taken from a patient treated with Norinyl-1.

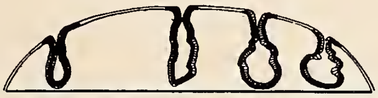
---

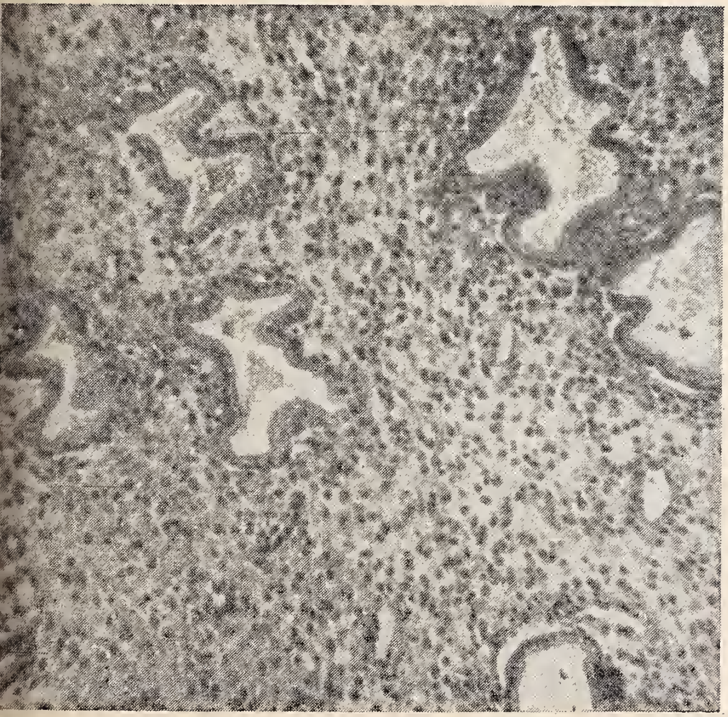
[*] Cohen, M. R.: Symposium: Mechanisms of Action of Low Dosage Oral Contraceptive, Yale University Medical Center, New Haven, Conn., April 6, 1967.

How Norinyl-1 alters normal endometrial responses—another possible protective mechanism

Let us suppose that an ovum is released—as occurs in an occasional, rare case—and somehow a sperm succeeds in penetrating the cervical mucus barrier. Should this come about, one additional action of Norinyl-1 may protect the patient from unwanted pregnancy. The theory is that progestogen intake makes endometrial tissue unreceptive to implantation.

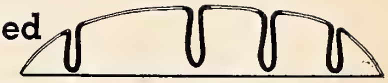
Endometrium of untreated patient

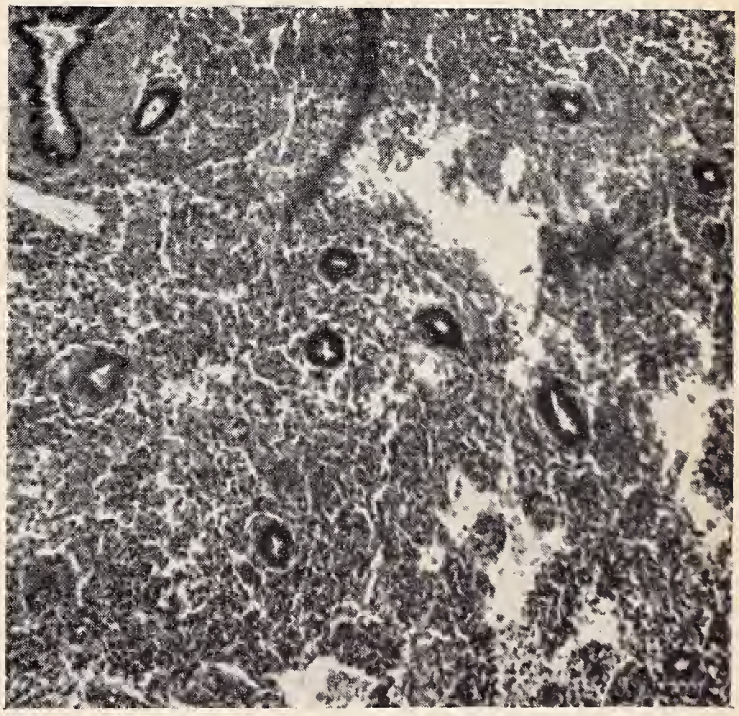




Normally, the endometrium progresses through a proliferative phase stimulated by estrogen and a secretory phase stimulated by progesterone. During the secretory phase the endometrium is receptive to the fertilized ovum.

Endometrium produced by Norinyl-1





When Norinyl-1 is administered its progestogen component—norethindrone—accelerates the secretory phase and suppresses glandular and vascular development.

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See last page for contraindications, precautions, side effects and dosage.

effective fertility control
on half the previous dosage

maintains ratio
of the established
norethindrone/mestranol
combination

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Reduction of oral contraceptive dosage to lowest effective levels has become a well-accepted principle of conservative medical practice. In keeping with this view, Norinyl is now available in a new strength in which *both* norethindrone and mestranol are reduced 50 percent. Studies show that Norinyl-1 achieves fertility control with only 1.05 mg. of combined progestogen and estrogen per tablet.

Norethindrone was first reported for use as a progestational agent in human beings in 1955. Norethindrone 2 mg. with mestranol 0.1 mg., as an oral contraceptive, is currently in use by over 2,000,000 women. Clinical experience now establishes that Norinyl-1 also amply meets the criteria of reliability and safety.*

*Symposium on Low-Dosage Oral Contraception, Palo Alto, Calif., July 15, 1965.

PRESCRIBING INFORMATION

Contraindications: 1. Patients with thrombophlebitis or with a history of thrombophlebitis or pulmonary embolism. 2. Liver dysfunction or disease. 3. Patients with known or suspected carcinoma of the breast or genital organs. 4. Undiagnosed vaginal bleeding.

Warnings: 1. Discontinue medication pending examination if there is sudden partial or complete loss of vision or if there is a sudden onset of proptosis, diplopia, or migraine. If examination reveals papilledema or retinal vascular lesions, medication should be withdrawn. 2. Since the safety of Norinyl-1 in pregnancy has not been demonstrated, it is recommended that for any patient who has missed two consecutive periods, pregnancy should be ruled out before continuing the contraceptive regimen. If the patient has not adhered to the prescribed schedule, the possibility of pregnancy should be considered at the time of the first missed period. 3. Detectable amounts of the active ingredients in oral contraceptives have been identified in the milk of mothers receiving these drugs. The significance of this dose to the infant has not been determined.

Precautions: 1. The pretreatment physical examination should include special reference to breast and pelvic organs, as well as a Papanicolaou smear. 2. Endocrine and possibly liver function tests may be affected by treatment with Norinyl-1. Therefore, if such tests are abnormal in a patient taking Norinyl-1, it is recommended that they be repeated after the drug has been withdrawn for 2 months. 3. Under the influence of estrogen-progestogen preparations, preexisting uterine fibroids may increase in size. 4. Because these agents may cause some degree of fluid retention, conditions that may be influenced by this factor, such as epilepsy, migraine, asthma, cardiac, or renal dysfunction, require careful observation. 5. Although a cause and effect relationship has not been established, Norinyl-1 should be used with caution in patients with a history of cerebrovascular accident. 6. In relation to breakthrough bleeding, as in all cases of irregular bleeding per vaginam, nonfunctional causes should be borne in mind. In cases of undiagnosed vaginal bleeding, adequate diagnostic measures are indicated. 7. Patients with a history of psychic depression should be carefully observed and the drug discontinued if the depression recurs to a serious degree. 8. Any possible influence of prolonged Norinyl-1 therapy on pituitary, ovarian, adrenal, hepatic or uterine function awaits further study. 9. A decrease in glucose tolerance has been observed in a small percentage of patients on oral contraceptives. The mechanism of this decrease is obscure. For this reason, diabetic patients should be carefully observed while receiving Norinyl-1 therapy. 10. Because of the occasional occurrence of thrombophlebitis and pulmonary embolism in patients taking oral contraceptives, the physician should be alert to the earliest manifestations of the disease. A cause and effect relationship has not been demonstrated. 11. Because of the effects of estrogens on epiphyseal closure, Norinyl-1 should be used judiciously in young patients in whom bone growth is not complete. 12. The age of the patient constitutes no absolute limiting factor, although treatment with Norinyl-1 may mask the onset of the climacteric. 13. The pathologist should be advised of Norinyl-1 therapy when relevant specimens are submitted.

Side Effects: The following adverse reactions have been observed with varying incidence in patients receiving oral contraceptives: nausea, vomiting, gastrointestinal symptoms, breakthrough bleeding, spotting, change in menstrual flow, amenorrhea, edema, chloasma, breast changes (tenderness, enlargement and secretion), loss of scalp hair, change in weight (increase or decrease), changes in cervical erosion and cervical secretions, suppression of lactation when given immediately postpartum, cholestatic jaundice, erythema multiforme, erythema nodosum, hemorrhagic eruption, migraine, rash (allergic), itching, rise in blood pressure in susceptible individuals, mental depression.

The following occurrences have been observed in users of oral contraceptives. A cause and effect relationship has not been established: thrombophlebitis, pulmonary embolism, neuroocular lesions.

The following laboratory results may be altered by the use of oral contraceptives: increased bromsulphalein retention and other hepatic function tests, coagulation tests (increase in prothrombin, factors VII, VIII, IX and X), thyroid function (increase in PBI and butanol extractable protein-bound iodine and decrease in T^3 values), metapyrone test, pregnanediol determination.

Other side effects reported to have occurred in association with use of this drug are dizziness, hirsutism, pains in legs, back, chest and abdomen, dysuria, drowsiness, vaginal discharge, libido increased and decreased, eruptions, hypermenorrhea, hypomenorrhea, increased appetite, G.U. infections, varicose veins, abdominal fullness, acne, headache, nervousness, allergies, blurred vision, pain in eyes, and itching in eyes. *For complete clinical data, see package insert.*

Dosage and Administration: 1. One tablet of Norinyl-1 is administered orally for 20 days beginning on day 5 of the menstrual cycle. (Count day 1 of the cycle as the first day of menstrual bleeding.) Repeat this dosage schedule for each cycle. 2. If no menstrual period occurs after a cycle of treatment (20 tablets) in which patient adhered to the schedule, the patient must be instructed to resume taking the Norinyl-1 tablets 7 days after the previous 20-day course was completed. For example, if the last pill of a previous cycle had been taken on a Sunday, then a new cycle of treatment should begin on the following Sunday. 3. In the postpartum woman, it is recommended that the first cycle of treatment should begin on day 5 of the first menstrual cycle. However, Norinyl-1 should not be administered during lactation.

Availability: Norinyl-1 (norethindrone 1 mg. with mestranol 0.05 mg.)—Dispensers of 20 and 60 and bottles of 250 tablets.

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fall 1967

DORSEY Season

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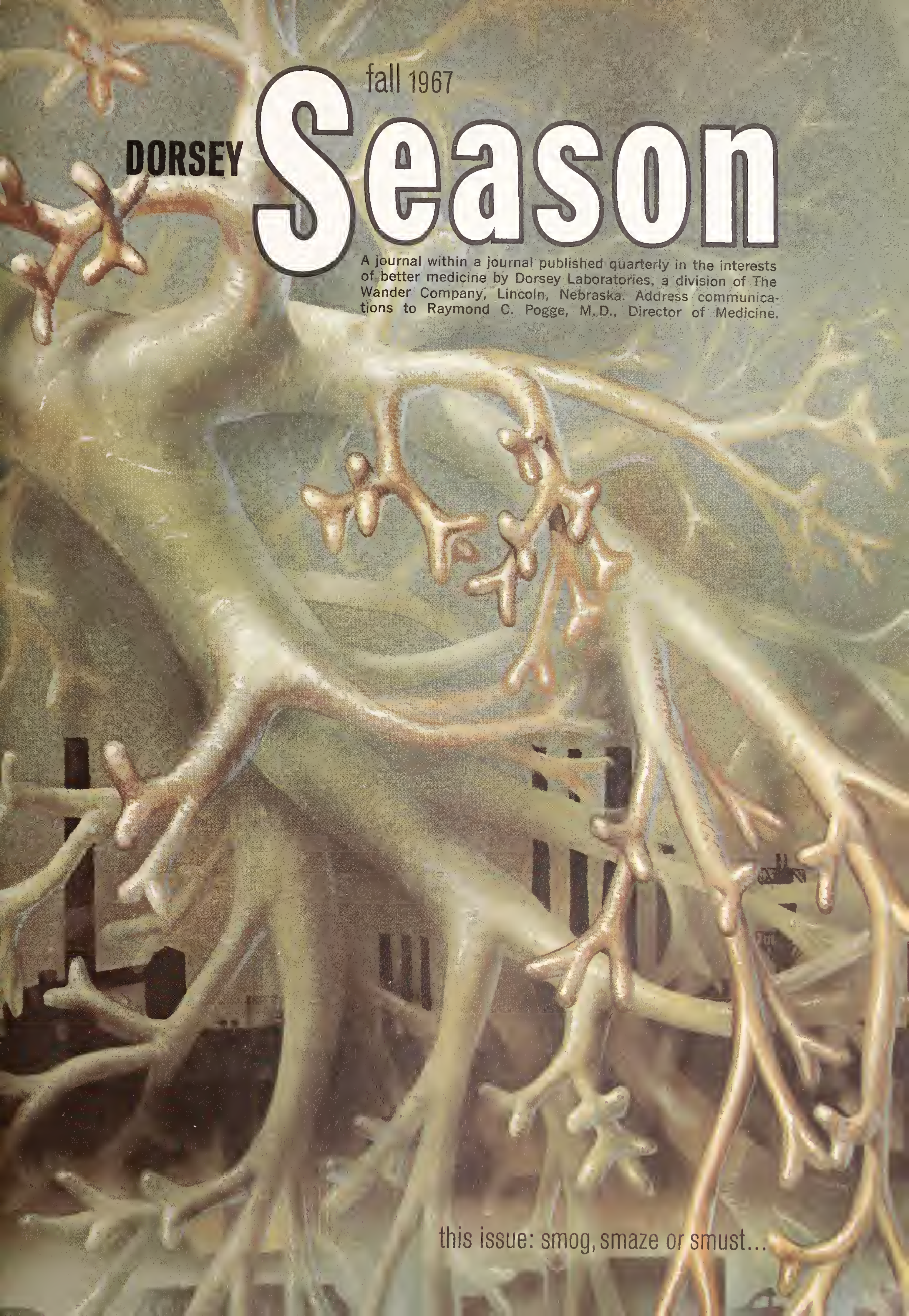

this issue: smog, smaze or smust...

Smog, smaze or smust...effects of air pollution on upper respiratory tract

Nathan Flaxman, M.D., Diplomate, American Board of Internal Medicine, Chicago, Illinois

In Los Angeles it is *smog* (smoke and fog). In New York City *smaze* (smoke and haze). In El Paso *smust* (smoke and dust). The original factor was smoke plus such natural phenomena as fog, haze and dust, but air pollution has mushroomed from a smoke problem in our industrial cities into a major economic, esthetic and public health problem that affects practically every American locality and citizen.[1,2] Respiratory disease, of course, is by far the most costly effect of air pollution, for contaminated air can aggravate our illnesses, deplete our strength and shorten our life span.[1]

The greatest problem in dealing with solid wastes is that they are not quickly returned to dust. To aid the decomposing process, the great bulk of such waste is burned, polluting our air in the process.[3] Dr. Jack McKee of the California Institute of Technology[4] has calculated that in Los Angeles County, which has more than six million people, about three pounds of gaseous wastes per person per day (on a dry-weight basis) enter the atmosphere. This is twice as much as solid refuse disposal and six times as much as the contaminants in waste water. It is estimated that in New York City, 730 pounds of pollutants, a little over half the size of a compact two-door sedan of foreign make, is annually thrown into the air for each man, woman and child in the city.[5]

Air pollution is an evident factor, not only in the common cold and upper respiratory disease, but also in chronic bronchitis,[2] pulmonary emphysema,[6] bronchial asthma,[7] pneumonitis and lung cancer.[8] Its effect on the incidence of pulmonary tuberculosis is unproved,[9] although it is conceivable that the presence of various materials polluting the air migh do this. A siege of smog in Denver, the "mile hig city," in December 1965 was accompanied by resp ratory infection that doubled normal absentee rate in schools, factories and city government.[10]

While air pollution is only one factor, it has becom important in the causes of most of the afflictions o the respiratory tract. This has been shown not onl by the Denver occurrence, but also by detailed study of respiratory illness in a small group of 313 me

For nature's hazards: nasal congestion due to seasonal allergies and summer colds

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Each teaspoonful (5 ml.) contains:

Phenylpropanolamine hydrochloride	12.5 mg.
Pheniramine maleate	6.25 mg.
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For nasal congestion regardless of cause, you can bring quick, lasting comfort to your little patients with Triaminic Syrup. You may occasionally encounter these *side effects:* drowsiness, blurred vision, cardiac palpitations, flushing, dizziness, nervousness or gastrointestinal upsets. *Precautions:* the possibility of drowsiness should be considered by patients engaged in mechanical operations requiring alertness. Use with caution in patients with hypertension, heart disease, diabetes, or thyrotoxicosis.

(Advertisement)

rom October 1962 to May 1963 when there were
02 episodes involving the upper respiratory tract.
he attack rate of illness was related in time to in-
reased concentration of both smoke and sulphur
ioxide in the atmosphere of the district in which
e men lived.

ther factors often mentioned, include exposure to
ose who have colds, exposure to extreme changes
f temperature, allergy and bacterial infection.
owever, when low individual resistance due to
ck of rest, overwork, fatigue, improper or unbal-
nced diet, previous illness and emotional stress are
cluded as causes, we enter the realm of somewhat
bscure relationships. Much more emphasis can be
laced on the role of polluted air.

he symptoms, signs and complications of involve-
ent of the upper respiratory tract, especially the
ommon cold, are the same regardless of the causa-
ive factor. Swelling of the lining of the nose, the
cratchy dry throat, the discharge from the nose at
rst watery then thicker, discolored and more tena-
ious, the eyes tearing, and frequent sneezing are
ll part of the Number 1 human ailment. Concur-
ent or residual sinusitis when mucus is trapped
here, middle ear involvement due to interference
ith drainage, laryngitis and bronchitis are compli-
ations of the common cold. The primary interfer-
nce is with a most important function of the nose—
he cleansing of foreign matter in the first line of
air defense" to prevent it from entering the breath-
ng tract.

owever, the diagnosis and subsequent decision on
ow to treat the patient so affected rests basically on
he relief of symptoms that cause him the misery.
he stuffed, runny nose, the clogged ears, and the
arsh dry cough—all the symptoms that make com-
on cold sufferers feel miserable and interfere with
heir sleep—can be alleviated with medications of
he oral nasal decongestant/antihistamine combina-
ion type. The burning sensation in the throat, soreness of the chest and even chest pain can also be relieved by such medication. Rest in bed if there is fever (but confined to home at least), liberal fluids, uniformly warm surroundings and adequate humidity in the room, are all helpful adjuncts to the medication. Most common cold sufferers recover rapidly and are symptom-free in four to ten days.

Further treatment, altered by the fact that the affliction hangs on for more than the usual duration of the common cold, requires consideration of allergy, which is most frequently the prolonging factor. But air pollution itself may often be the culprit.

(Concluded on following page)

At the Third National Conference on Air Pollution held recently, it was emphasized that this subject had received more attention in the past four years than in all previous history. Spicer,[11] an active participant at this conference, reiterated that it behooves the practicing physician to be aware of trends in respiratory disease and to accept a major role in community action relating to air pollution and respiratory health. By taking a positive stand physicians have been instrumental in the development of anti-pollution legislation. An outstanding example is Los Angeles where major steps have been taken by abolishing coal burning, and even banishing oil burning, seven months a year. Natural gas must be used instead and it must be used by industry when available. Backyard incinerators have been abolished in favor of landfill disposal, and building incineration ended except for a few expensive smokeless furnaces.[10] Concerted action can be taken against particular industrial nuisances. One company that disregarded complaints discovered its error when thousands of its credit cards were returned by irate customers who decided to patronize competing companies.[12]

Summary. Respiratory disease is the most important and most costly effect of air pollution, whether termed smog, smaze, or smust. Air pollution is an economic, esthetic and public health problem that affects practically every American locality and citizen. New sources of air pollution are invisible and odorless, but the harmful gases and liquid droplets are there. Triggered by sunlight, some of these undergo mid-air chemical changes and the results are even more irritating to the upper respiratory tract. The symptoms, signs and complications, especially of the upper respiratory tract, can be readily aborted by modern medication but may be unduly prolonged by polluted air. In steps taken to prevent this, the practicing physician can take a major role.

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Cautions and side effects: Use with caution in patients with known drug sensitivity. If a hypersensitivity reaction or symptoms suggestive of liver dysfunction are observed, the drug should be stopped. Occasionally, drowsiness, dizziness, lightheadedness, malaise, overstimulation or gastrointestinal disturbances may be noted; rarely gastrointestinal bleeding, allergic skin rashes, petechiae, ecchymoses, angioneurotic edema or anaphylactic reactions may have been drug associated. While *Paraflex* (chlorzoxazone) has been suspected as being the cause of hepatic toxicity in approximately eighteen patients, it was not possible to state that the dysfunction was or was not drug induced. *Dosage:* Two tablets q.i.d. *Supplied:* Scored, light green tablets, imprinted "McNEIL"—bottles of 100.

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*U. S. PATENT NO. 2,895,877

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CORRESPONDENCE

Roland F. Schoen, M.D., Editor
Arizona Medicine
Suite 201
4601 North Scottsdale Road
Scottsdale, Arizona 85251

Dear Doctor Schoen:

A copy of Resolution #14 "Nursing Education" as adopted by the Arizona Medical Association, Inc., on April 29, 1967 and sent to me by the Secretary of the Arizona Medical Association, Inc., was read and discussed by the Board of Directors of the Arizona State Nurses' Association at its regular meeting on May 20, 1967. In an effort to clarify the several issues referred to in the resolution, it would be very much appreciated if this letter could be shared with physicians through the medium of *Arizona Medicine.*

On behalf of the members of the Board, I have been asked to express our concern that another organization feels impelled to take action regarding a principle in which our professional organization believes and which was enthusiastically approved by the House of Delegates of the American Nurses' Association in June, 1966. Our concern is justifiable, I believe, as I am sure our organization would never consider proposing a resolution involving judgment of medical education or the American Medical Association. We believe that physicians should speak for the physicians and nurses should speak for nursing. While, as you know, there are areas of common concern, we feel there are also areas of concern which belong exclusively to the professionals in question.

We do, of course, realize the concern of physicians regarding the quantity and quality of nursing care available to patients. For this very reason, the Arizona Medical Association was invited and has had representation on the Joint Committee for Nursing Needs and Resources in Arizona since this group was first organized in 1965. Doctor William Payne has been most faithful in participating in the activities of this group, your organization has contributed financially to its support and copies of the published reports have been made available. It would seem that an honest effort has been made to involve and inform your organization of the true situation in Arizona and the community planning for changes in nursing education as these relate to what is happening in society generally, not just inside our state.

In reading this resolution, it appears to us that there is grave misunderstanding of our professional organization's "Position on Nursing Education." It is unfortunate that we were not invited to interpret this to your House of Delegates, as we believe the action on the resolution would have been quite different. I should like to clarify some of the statements made in the resolution:

1. Actually there is not "an obvious decrease in the number of nurses." Nationally, the number of practicing registered nurses has increased tremendously in the last ten years from 430,000 to 621,000, more rapidly than any other professional group. Demand has simply outstripped the growth. In Arizona, the number of registered nurses working increased by 4% annually in 1964, 1965 and 1966, but in 1966 alone the number of licensed hospital and extended care facility beds increased by 17.4%. The demands for registered nurses in other fields of nursing – School Nursing, Public Health, faculty for nursing schools, have also increased dramatically. Our organization is deeply concerned with the *way* nurses are being utilized. There are many nurses in this state and in the nation who have strong convictions that if nurses *nursed*, patient care would be markedly improved. We also believe that nurses must be more closely involved and actively participate in health planning, and I use hospital bed expansion as an example. There has been relatively little consideration given to staffing problems by those who propose and plan new hospitals and expansion of existing facilities.

2. Licensed practical nurses and nurses aides have for many years assisted the registered nurses in giving care to our patients. I am not convinced there has been an increase in this area. If you recall, in the ANA's position paper, we endorsed the moving of nursing education into institutions of higher learning, ie, the Junior College Associate Degree programs to prepare the technical nurse and the Universities to prepare the professional nurse. An attempt will be made to upgrade practical nurses to the technical level through more education. Our Board of Directors is requesting that the Arizona State Board of Nursing investigate the advisability of

establishing some type of certification or standards for the nursing assistants (aide) groups. We are very much aware that the present on-the-job training programs go from the extremes of being very poor to excellent.

3. As far as diploma schools throughout the country closing because of the high cost of training and the ANA's vocal opposition, we take great exception to the latter part of this statement. The ANA, in writing and verbally, has stated over and over again that diploma schools must not and should not close until community planning has taken place and until we can be assured that the Junior Colleges and Universities can prepare an adequate number of nurses. It is our belief that hospital schools have closed and the ANA position on nursing education has been given as the reason when in reality these schools wanted to close. Certainly the additional cost to the sick patient of paying for nursing education programs is of major concern in continuing the diploma school.

4. The ANA encourages all potentially capable students to enter nursing programs — not just the collegiate program. We do feel that a disservice is done to any student if we do not tell her of *all* the programs in nursing education and point out the program we feel is best suited to the applicants' ability and potential. The great emphasis in our elementary and secondary schools on the value and necessity for collegiate education in itself influences many of our gifted young people to seek this route to nursing education.

5. We have never felt that the collegiate program would graduate *all* the registered nurses. We believe the appropriate ratio to be 67% prepared at the technical level and 33% of the professional or baccalaureate level.

Regarding the matter of advancement and remuneration of the registered nurse: we feel that the establishment and circulation of recommended personnel policies and beginning salaries is a prerogative of our organization. How these are implemented throughout the state varies according to the employment situation. However, we do believe that a recognition at the time of employment for previous satisfactory experience, additional responsibilities and additional educational qualifications is absolutely necessary if we are to attract the best qualified nurses to positions in this state.

We do hope that representatives of our two organizations can meet together and discuss possible ways of avoiding misunderstandings such as this and to plan for methods through which patient care will be improved. If we had only been aware of your organization's concern, we would have attempted to provide information which I am sure would have led to an understanding of the position of the professional nursing organization.

Sincerely,
Rosamond Gabrielson, R. N., President
Arizona State Nurses' Association

Response

The letter from the Arizona State Nurses' Association should be a surprise to only the uninitiated. The liaison committee of the Arizona Medical Association, which was set up primarily to better communications between the two groups, was recently dropped due to disinterest on the part of the Nurses' Association. They now rise up in all of their maternal dignity to express great concern about our resolution which, in effect, simply states we believe all educational endeavors now in operation should be continued. Our resolution was prompted by an action taken by both the Arizona State Nurses' Association and the American Nurses' Association wherein they took unilateral action to sound the death knell for diploma schools of nursing. Other responsible organizations equally interested in the supply of nurses decided such precipitate action would not go unchallenged. The Arizona Hospital Association is not happy with the nurses' stand.

The American Hospital Association has decided to disregard completely the pronouncement of the nurses' association. They plan to set up a new accreditation body as a part of the American Hospital Association and directly encourage diploma schools of nursing.

It would seem, therefore, that a strong tide of opinion is running against the nurses' statement regarding diploma schools. It is hoped they will heed the warning and rescind their present stand on diploma schools as persistence in this stand is believed to be unworthy of their profession and not in the public interest.

Dermont W. Melick, M.D.

(See Reprint section, page 999, for article on Nursing Education — Debate, Dilemma, Debacle.)

July 18, 1967
Mr. Bruce E. Robinson
Assistant Executive Secretary
The Arizona Medical Association
4601 North Scottsdale Road, Suite 201
Scottsdale, Arizona 85251

Dear Mr. Robinson:

I have received two copies of the July 1967, issue of ARIZONA MEDICINE which you forwarded to Special Agent Bert C. Mereness of this office.

The excellent presentation afforded to Alson Thomas Wahrlich, one of our Ten Most Wanted Fugitives, is certainly appreciated. Should any positive results be received with the publicity afforded this fugitive through your magazine you can rest assured that I will immediately advise you.

Federal Bureau of Investigation
Very truly yours,
JOHN P. MULL, JR.
Special Agent in Charge

Mr. Robert Carpenter
Executive Secretary
Arizona Medical Association, Inc.
Suite 201, 4601 North Scottsdale Road
Scottsdale, Arizona 85251

Dear Mr. Carpenter:

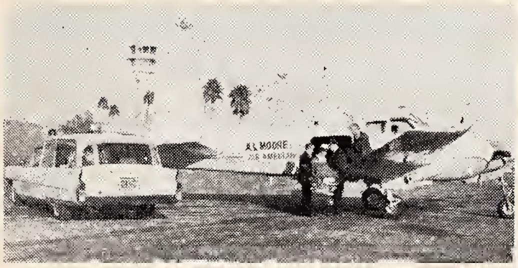
I have been asked by the American Academy of Pediatrics to notify you that you will be receiving in the mail in the near future a copy of the new Academy manual, *Standards of Child Health Care.* This is being done because of the interest expressed in this publication by the field representative for the American Medical Association who visited the central office recently.

This publication was prepared by the Council on Pediatric Practice of the American Academy of Pediatrics and is presented as a guideline for optimal care of children, though not an absolute criteria. It should serve as an excellent reference for the comprehensive health care which should be delivered to children of all ages in health and illness.

Of interest to us in Arizona is that the chairman of the committee that prepared this manual was Dr. Hugh Thompson of Tucson. Dr. Thompson is past president of the Arizona Pediatric Society and the Arizona Chapter of the American Academy of Pediatrics and at the present time is chairman of District VIII of the American Acadmey of Pediatrics. This District includes all of the western states with the exception of California and does include Alaska and Hawaii.

Sincerely yours,
John K. Kerr, M.D.
Chairman, Arizona Chapter of the
American Academy of Pediatrics
Arizona Pediatric Society

24-HOUR AIR AMBULANCE SERVICE



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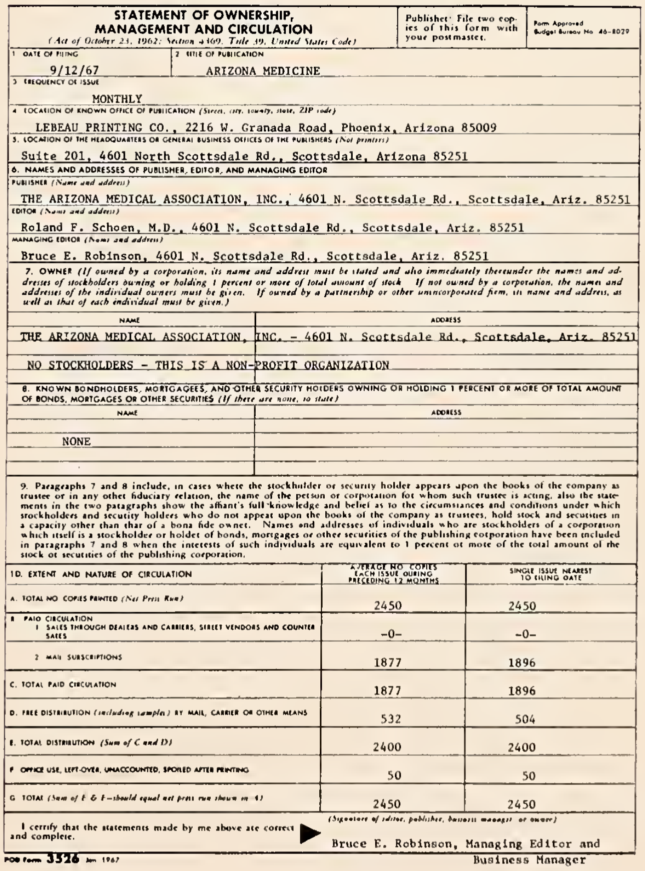

STATEMENT OF OWNERSHIP, MANAGEMENT AND CIRCULATION
(Act of October 23, 1962: Section 4369, Title 39, United States Code)

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MANAGING EDITOR *(Name and address)*: Bruce E. Robinson, 4601 N. Scottsdale Rd., Scottsdale, Ariz. 85251

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Bruce E. Robinson, Managing Editor and
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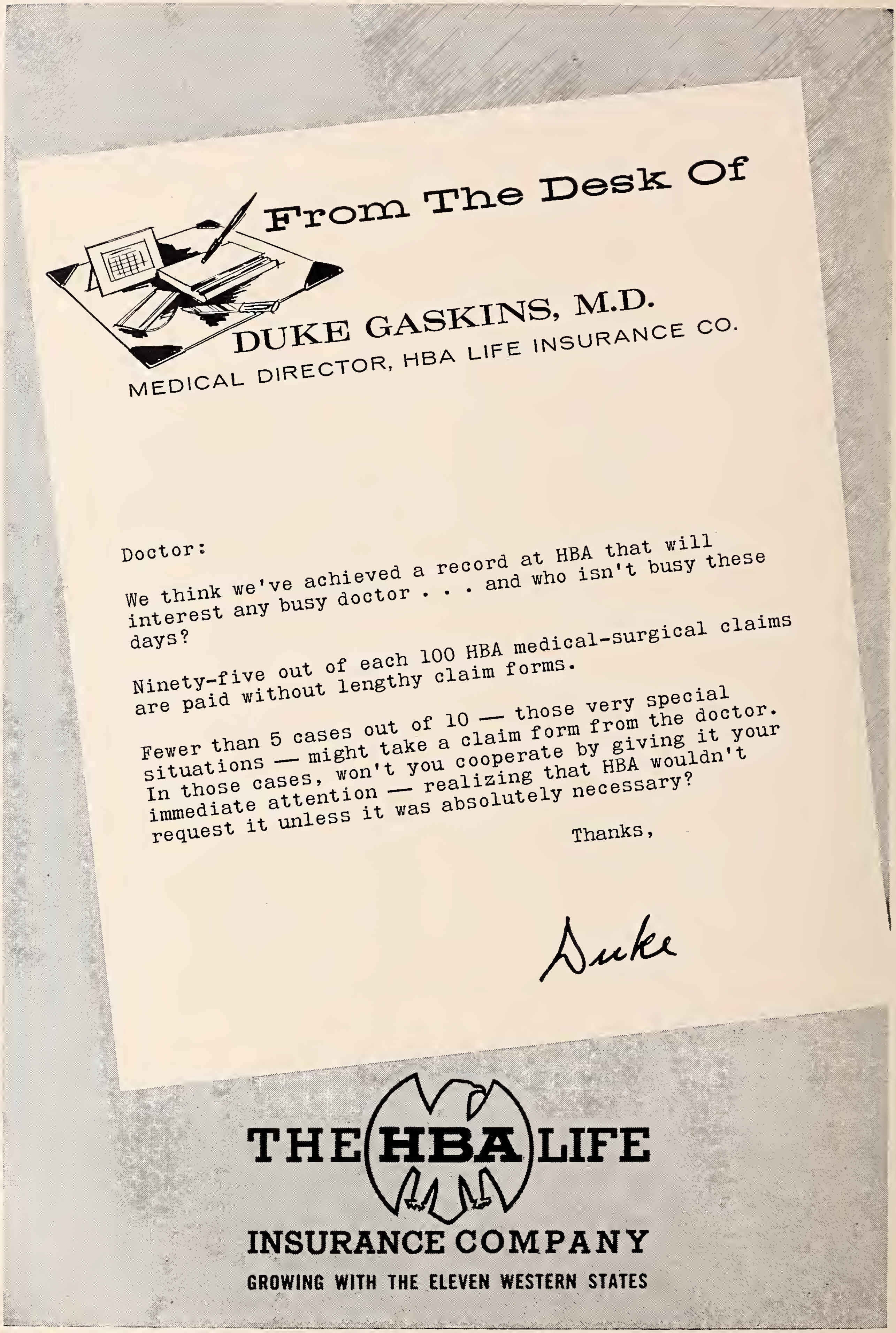

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Nursing Education— Debate, Dilemma, Debacle

by JOHN C. IMHOFF

Most people not closely associated with hospitals are unaware of the unrest that is pervading nursing education today, both in the hospital and on the college campus.

The debate had its start in 1910, when the University of Minnesota offered the first baccalaureate program in nursing. Prior to that time, nursing education had been exclusively a hospital-sponsored activity.

Between 1910 and 1943, the number of baccalaureate programs increased to 120, supplementing the existing 1297 hospital diploma programs.

In the early 1960's, the surgeon general of the United States Public Health Service appointed a Consultant Group on Nursing to advise him on the nation's nursing needs and to identify the appropriate role of the federal government in assuring adequate nursing services for the citizens. In 1963, the consultant group issued a survey report which disclosed that the supply of nurses was falling behind a rapidly increasing demand. In the year 1962, there were 550,000 professional nurses in practice. This number, the findings indicated, would have to be increased to 850,000 by the year 1970 if the needs of the growing population were to be met.

Despite the uncontested need, attaining such a goal was clearly impossible. In consequence, it was decided to set a goal of 680,000 nurses in practice by 1970.

There was agreement in the report that federal funds would be needed to help meet the construction and maintenance needs for an educational venture of this magnitude. These funds were subsequently made available through the provisions of the Hill-Burton Act, the Allied Health Professions Personnel Training Act, and the Nurse Training Act of 1964. It was also agreed that major expansion would be needed in both the diploma and the collegiate programs to achieve even the 680,000 figure.

Now let us pause for a moment and examine some of the forces that contributed to the decline in the number of professional nurse graduates. Undoubtedly, the most influential factor had been the massive industrial effort that accompanied World War II. This industrial effort demonstrated that "Rosie" could not only rivet, but she could also perform many other male-oriented industrial jobs and perform them well. As a result, the hospitals, traditionally the principal employers of females, found themselves competing with industry for female workers. Because the wage-scales in hospitals had always lagged behind those of industry, fewer girls graduating from high school were seeking nursing as a career, preferring better paying jobs. Another consideration stemmed from the rapidly rising costs, which were making hospital schools of nursing very expensive to maintain.

As a result of these developments, a change took place in the ratio of diploma schools to baccalaureate schools. As mentioned earlier, in 1943, there were 1297 diploma schools and 120 baccalaureate schools. In 1964, there were 840 diploma schools and 187 baccalauraete schools. In other words, during this 21-year period, 457 hospital-based diploma schools had ceased to exist, and even though this decrease was somewhat offset by the increase in baccalaureate programs, the combined figure for both programs was still well below the number of diploma schools in operation in 1943. During this same period, in 1950, the two-year associate degree nursing program came into existence and by 1964, 120 of these programs were also educating student nurses.

The tremendous need for nurses disclosed by the surgeon general's 1963 report, and an overly optimistic appraisal of the apparently prospering baccalaureate and associate degree programs were influential factors in leading the American Nurses Association to publish in 1965, the now

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Reprinted from TRUSTEE Vol. 20, No. 6; June 1967

famous Position Paper, designed to reinforce that organization's interest in, and responsibility for helping to raise the standards of nursing education. In essence, the ANA Position Paper states that education for professional nursing practice should take place in a baccalaureate setting, and that education for technical nursing practice should take place in two-year associate degree programs. It is this requirement that is causing the dilemma.

Unfortunately, the state of confusion resulting from this dilemma is spreading rapidly. For example, whereas noninterruption in the production of new nurse practitioners is a basic tenet of all nursing organizations that subscribe to the ANA position, this enlightened view has been overshadowed by an increasing number of ill-timed and importune acts and editorial comments. For instance, the publication, **Blueprints for the Education of Nurses,** published by the New York State Nurses Association last December, recommended that no new hospital diploma programs, and no new programs in practical nursing be established after Jan. 1, 1967, and that all programs for professional nurse education be transferred to institutions of higher learning by 1972. Paradoxically, one month later, in January 1967, the New York State Board of Regents advocated a $13 million crash program calling for every available educational resource to combat that state's shortage of professional and practical nurses.

Another unfortunate consequence of the position paper has been the reaction of the nation's high school counselors who now are de-emphasizing diploma schools of nursing to their students. Because of this situation, hospitals are experiencing increasing difficulty in enrolling a full complement of students in their freshman nursing school classes.

A comparison of the 1964-65 and the 1963-64 figures on nurse graduates from basic programs discloses that, nationally, there was an increase in 1964 of 322 baccalaureate program graduates, and 548 associate degree graduates. These gains were more than offset, however, by a decrease of 1433 in the number of graduates from diploma programs — a net loss of 563. What is worse, it is estimated that during the next four years, 62 more diploma schools will close their doors.

And so we have the debacle.

In August 1966, in my own state of Pennsylvania, there were 106 professional programs in operation, with a total enrollment of 12,853 students. Of this number 11,910 were diploma students. The remaining number, or 766 and 177, respectively, were students in baccalaureate and associate degree programs.

More specifically, in Western Pennsylvania, in 1966, there were 38 hospital schools of nursing with a September enrollment of 1727 freshmen — 197 less than in 1965. At the same time, the six collegiate programs enrolled 259 freshmen — a figure smaller by 23 than for the previous year.

The facts seem to be that there is not now available, nor is there likely to be available through collegiate programs, an adequate quantity of prepared professional nurses to meet the needs of hospitals for many, many years to come — if indeed ever. Right now, in Pennsylvania alone, there are 2800 vacancies for registered nurses, and it has been estimated that some 1300 additional licensed practical nurses are needed as well.

Speaking personally, it is my firm belief that hospitals cannot afford the luxury of debating the issue of diploma schools vs. collegiate schools any longer. The dilemma is being made worse by it, and the debacle must be stemmed immediately. The time to strengthen, improve, and enlarge the present system of diploma schools is **now.**

I strongly recommend that we let untrammeled time be the ultimate judge of the future role of corollary approaches to nursing education and, in the meantime, permit our hospitals to be staffed and the patients given nursing care by increasing numbers of those excellent products of our nursing schools that the public has grown to expect, and to respect through the decades.

There are, in my state of Pennsylvania, 116,646 hospital beds in the state's 327 hospitals. To the administrators of these hospitals, as well as to the administrators of hospitals in all the states, adequate nursing coverage is a life and death situation. Philosophy about the future of nurse education notwithstanding, there is no other way to meet our needs now and in the reasonably foreseeable future than to strengthen and enlarge our diploma schools of nursing.

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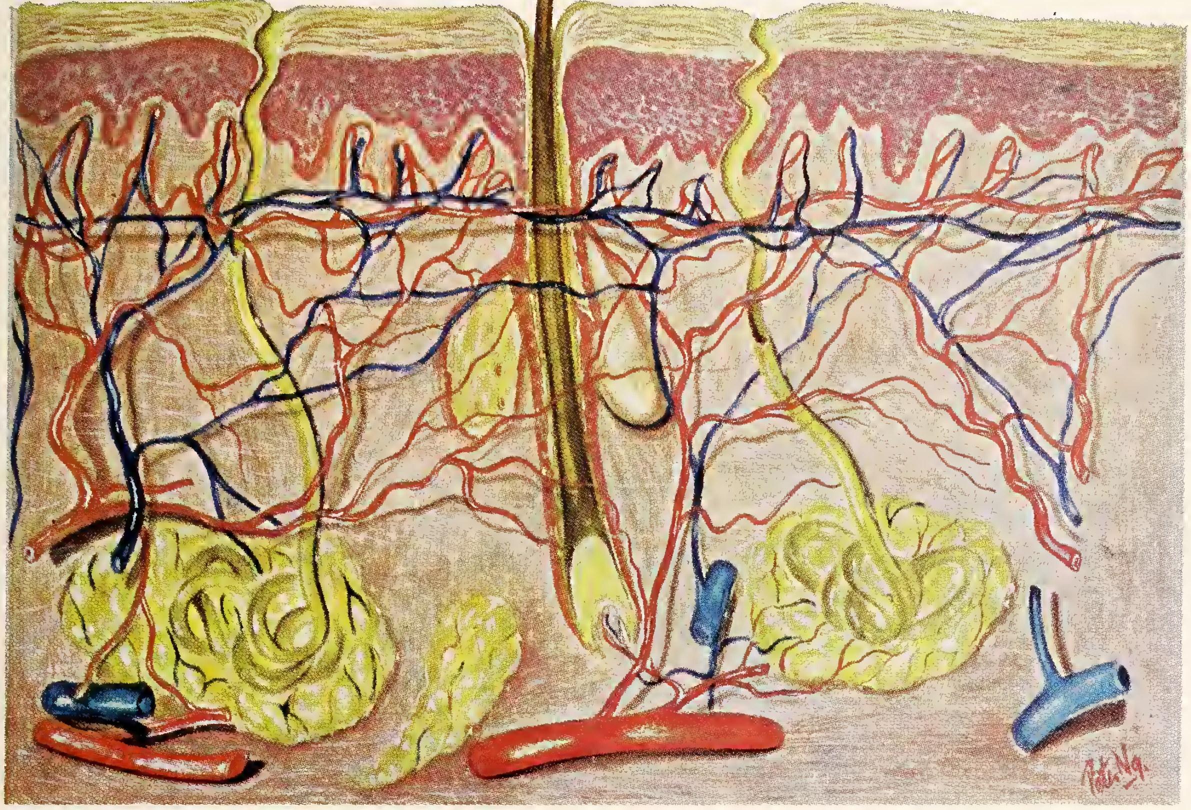

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TOPICS OF CURRENT MEDICAL INTEREST

THE CARE OF SERIOUSLY ILL PATIENTS

Oscar Thorup, Jr., M.D.
James H. Hockings, B.S., B.A.

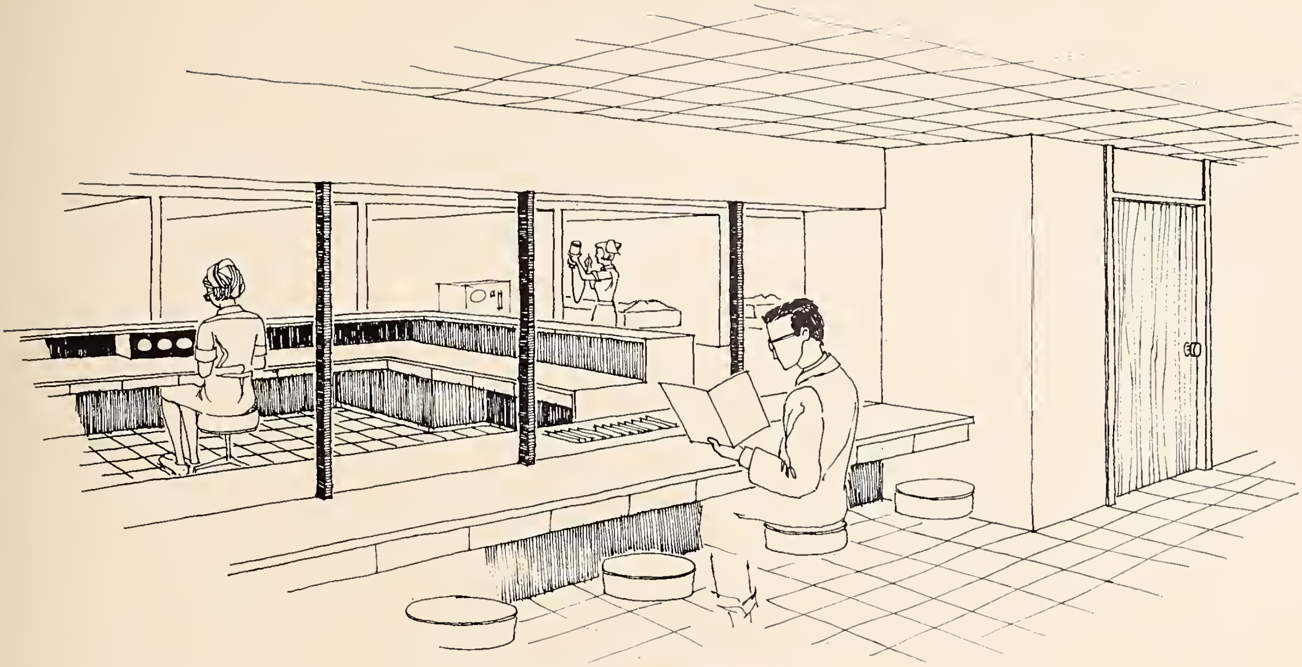
Many patients who were formerly lost as the result of serious deterioration in bodily function may now be saved as the result of recent advances in technology. An optimal environment must be created in order that the technological achievements, now available, and those which may be perfected in the future, can be made immediately available to the patient. Intensive care units have been made an intrinsic part of many hospitals to answer this need. These units must house the necessary electronic eqiupment, have a high density of nurses trained in monitoring and resuscitation procedures, and have excellent communication with support services originating in a variety of departments. The staff must be in a position to make decisions rapidly on the basis of collected data, and initiate appropriate measures with speed and accuracy if potentially lethal complications are to be prevented.

While the major use of intensive care facilities is in the care of a patient with acute myocardial infarction, these units now house a wide range of patients who may require artificial maintenance of circulation or respiration. Patients from any of the many services offered by a modern medical center may well profit from the intensive care which may be administered in these units.

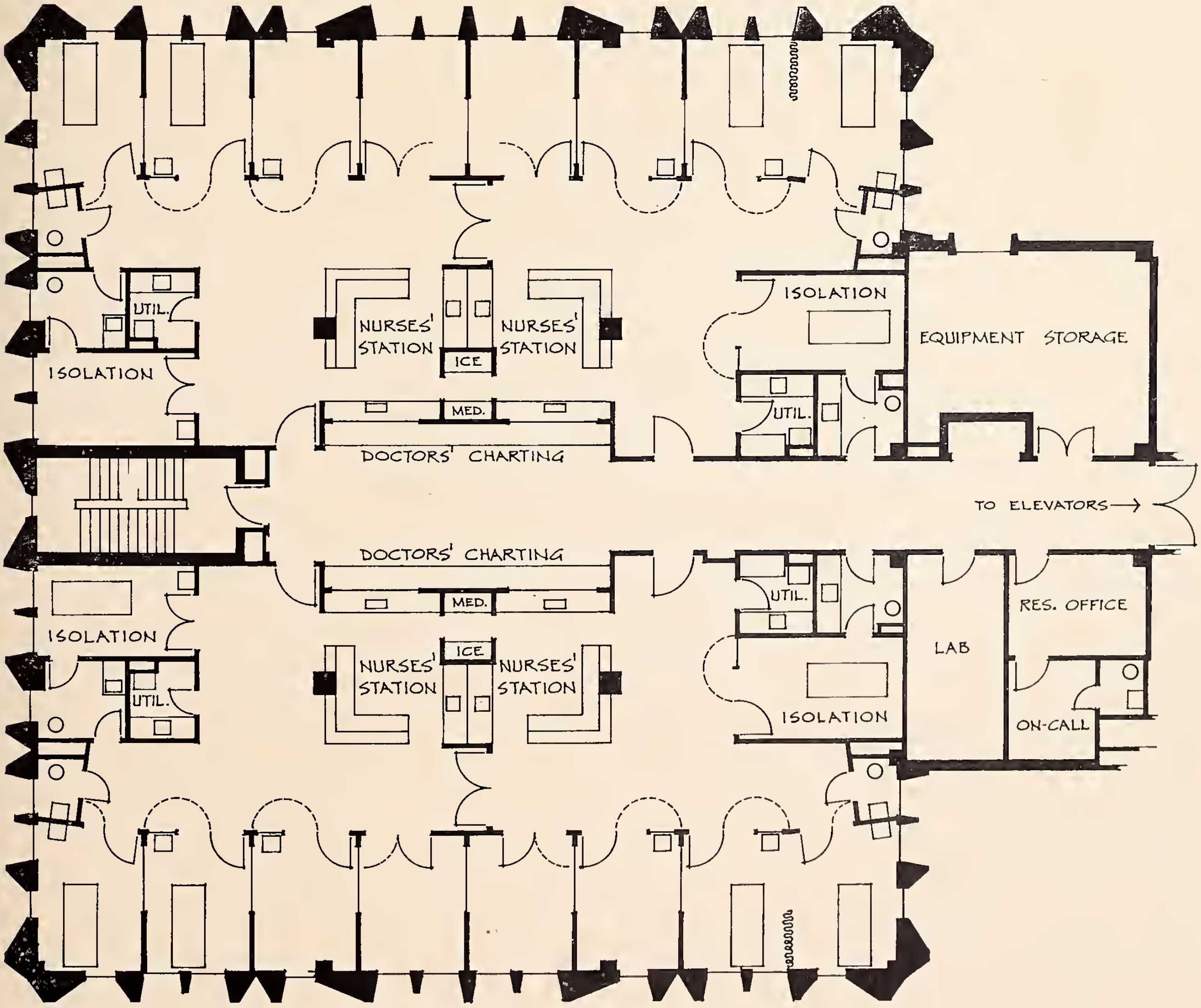
Two intensive care units have been designed for the University Hospital. They have been established as separate areas on the fifth and sixth floors and situated one above the other. The intensive care unit on the fifth floor is adjacent to a general surgical ward, while that on the sixth floor is adjacent to a general medical ward. Both units are identical in design and each is composed of four, five-bed sections with independent nursing stations. Each of the five-bed sections has one room which may be used as an isolation room.

The unit is constructed so that direct observation of all patients is possible from the nursing stations and working area, and the distance from the nursing station to the patient's bed is no more than 15 feet. Electronic equipment will provide maximal audiovisual contact between patients and staff. Any two of the contiguous five-bed sections may be operated as a single ten-bed section if conditions seem appropriate.

The physicians' charting area is located in the center of the intensive care unit and is surrounded by the four nursing sections. The charting area is separated from the nursing stations and patients by glass partitions. Physicians working in this area are in full view of the nurses and can be summoned in case of emergency. They may hold conferences with students and other colleagues in the charting area without disturbing either the patients or the nursing staff. The lack of necessity for physicians to enter the nursing station itself will lessen the traffic in this generally congested area.



View from the physicians' charting area.



Intensive Care Unit floor plan.

The patients' rooms are single rooms with fixed partitions containing a wide expanse of glass. Curtains may be drawn when the need arises. The double doors in each of the patient's rooms may be opened to allow a six-foot wide entrance through which bulky equipment may be moved with ease.

The individual patient rooms are designed to provide electrical isolation in order to minimize interference with electronic monitoring. They have soundproof structure with acoustical tile ceiling and conductive floor. Adequate lighting for routine and emergency examination is provided, and the entire area is air conditioned to control temperature and humidity. Intercommunication between the nurses station, the patient rooms, the family waiting area, the physicians' room and the lounges will be provided. Electrical circuitry has been planned with provision for 110-volt receptacles and 220-volt receptacles as well. Hung ceilings provide the space for future additions to the monitoring equipment. All rooms are equipped with bedside outlets for oxygen, air and suction, wall bracket supports, and a ceiling support with track and arm for intravenous therapy.

Adjacent to the intensive care unit is a large equipment storage area where support equipment may be kept within easy reach. A laboratory in which special procedures may be carried out is located immediately adjacent to the unit, and a staff office and on-call room complete the unit.

There will be continued improvement in the monitoring devices which are now available. A running account of a variety of biochemical data, as well as the physiological data, now available, will soon be commonplace. Built-in warning systems will alert the nursing staff and physicians to trouble immediately. With continued improvement in the systems these data will be collected rapidly and accurately, correlated and recorded for future review. Continued improvement in the care of seriously ill patients can but result. The intensive care units of the University of Arizona Hospital were designed to provide facilities to house the equipment, presently available, to sustain ventilatory and circulatory function of seriously ill patients, and have the flexibility to adapt to those needs of the foreseeable future. A staff will be developed to apply the results of modern technology and design to the comfort and care of the patient and his family.

OPHTHALMIC SCIENCES FOUNDATION

The Ophthalmic Sciences Foundation has been formed as a statewide community service to promote the best possible medical and surgical eye care. The primary goals of the organization will be pursued through acquisition of highly specialized ophthalmological equipment not now available in Arizona hospitals, medical research, professional and lay education, and financing of lectures and seminars by internationally recognized ophthalmologists. Contribution and bequests to the Foundation are tax deductible.

The board of directors will eventually include a total of fifteen medical and lay members. The present lay members are Earl Bimson, Executive Vice-President, Valley National Bank; Julian DeVries, Medical Editor, Arizona Republic; and Thomas J. Lang, Attorney. Medical board members are John Aiello, M.D., Paul H. Case, M.D., C. Truman Davis, M.D., Alfred French, M.D., and Robert F. Lorenzen, M.D. Twenty-nine Arizona ophthalmologists are charter members.

Financial support for the Foundation will come from private and public donations, grants from other foundations, corporations, and governmental agencies. Operating expenses will come primarily from membership contributions.

In cooperation with existing hospitals, medical institutions, and medical schools, The Ophthalmic Sciences Foundation hopes to become a valuable professional complement to Medicine in Arizona.

Further information may be obtained by writing Mr. Thomas J. Lang, Secretary, P. O. Box 251, Phoenix, Arizona, 85001.

THE ARMADA PLAN

THE H.R.-10 PROGRAM DESIGNED FOR ARMA

Ian M. Chesser, M.D.

Previous Medical Memos have been circulated concerning the development and subsequent approval of this plan. The July issue of the Journal carried a brief resume of the plan and surrounding services. Interested colleagues have suggested a more comprehensive report on the entire program.

Call it what you will — H.R.-10, Keogh, Armada. It is the Self-Employed Individuals Tax Retirement Act with which we are concerned and which has been with us for some time. Interest in its original form has been relatively passive because of some of its negative features. New interest was aroused when legislative revisions removed many of these negative features to become effective January 1, 1968. The tax-free accumulation provision of this Act, however, has been, and will continue to be, its most attractive feature.

Many approaches have been taken in designing plans for particular groups. After much study and many conferences, a conclusion was reached that we design our own plan to include the following objectives:

1. The better features of other plans and proposals reviewed.
2. The maximum flexibility allowable.
3. A complete choice of permissible retirement vehicles.
4. No administrative load on ARMA Executive Offices or members other than possibly an advisory or liaison committee.
5. Initially attractive rates and fee schedules.
6. Rates and fees to be negotiable as plan progresses.
7. No initial cost to ARMA for setting up the plan.

FEATURES AND FLEXIBILITY

SAVINGS (Inside the Plan)

Realizing the improbability of any one vehicle, or any one combination of vehicles, meeting the need or desire of every member wanting to participate it was decided to provide as broad a choice as was within reason. The individual joining the plan has available to him a selection of retirement vehicles within the plan from which to choose.

1. Deposits SPLIT as participant chooses between COMMON FUNDS and ANNUITIES.
2. Deposits SPLIT as participant chooses between MUTUAL FUNDS and ANNUITIES.
3. Participant's total deposits into COMMON TRUST.
4. Participant's total deposits into MUTUAL FUNDS.

5. Participant's total deposits into ANNUITIES.

Within the Plan the participant may, from time to time, revise his directions to the Trustee in the splitting of his deposits within any legal limits prescribed by the Keogh Act.

OPTIONALS (Outside the Plan)

Further study revealed that many members were not keenly interested in incorporating life insurance within their retirement plan. Their insurance programs were either satisfactorily organized or they preferred to contemplate developing them separately from a retirement plan. Considering these points and the complications of accounting and reporting, when insurance costs are co-mingled with retirement deposits within the plan, provision was made to offer the following two benefits as outside-the-plan Optionals:

1. Low-cost Decreasing Term Insurance to Age 65, to provide assurance of ultimate savings goal to family should death stop earnings and deposits.
2. Up to $210 per month Disability Income to Age 65, serving as "Premium Waiver Benefits" for the participant in the event of total disability either from an accident or an illness.

CONTRIBUTORY ACCOUNT

Each participant has the option of creating a second account which is referred to as a "voluntary" account or "contributory" account. This account may be established if the participant has an eligible employee for whom the participant is making deposits into the first or "general" account, and if the employee is permitted to deposit into the second account in his own behalf. However, it is not required that the employee make such voluntary deposits. The same deposit limits, 10% of NEI or $2,500, whichever is less, apply to this account as they do to the general account. Though a participant predesignate to the general account a percentage less than 10% of his NEI, and of his employee's gross salary, he may utilize a full 10% of his NEI or $2,500, whichever is less, in this after-tax second account. Deposits into the general account for the participant and the employee provide a deduction, for tax purposes, in the year made. Also, the general account's growth and earnings are accumulated tax free. Deposits into the contributory account provide no current tax relief but the account does enjoy the same tax-free advantages as is true for the general account on accumulations.

The establishment and utilization of a Contributory Account offers many advantages and privileges. They should be explored completely when planning with the Trustee or the Insurance Administrator.

TRUSTEE — COMMON TRUST

The trustee selection was concluded for several reasons. At the time of selection they were the only bank in Arizona exhibiting a genuine and immediate interest in providing the amount of service and effort required to put such a program together encompassing features for which we had expressed desire.

Further, they agreed to establish a "Common Trust" tailored to the requirements of the Plan and to accommodate H.R.-10 requirements; to provide an I.R.S. approved Master Plan encompassing every conceivable advantage under enabling legislation; to provide I.R.S. approved Membership Agreement forms for self-employed individuals, partners, and their qualified employees; to provide a fee schedule no greater than the lowest trust fee schedule applicable as standard to less costly-to-manage trusts; to provide a miscellaneous fee schedule averaging approximately 50% under such fee schedules observed in comparable group programs; to make no charge to the trust fund for the initial costs of developing and making the plan available; to work with an"Advisory Committee" to be appointed by ARMA; and in general to serve the best interests of ARMA members.

Investment Council

The Common Trust will be invested under advice of one of the nation's outstandingly successful investment anlayst and consulting firms. Studley, Shupert Trust Investment Council is retained by over two hundred fifty banks across the country because of their superior and consistent performance record in advising funds of varying result objectives.

The Trustee, with the Investment Council, will develop a portfolio appropriate to current market conditions and with an objective of growth, through earnings and increased values, with safety. They will, at their discretion and with the assistance of the ARMA Advisory Committee, effect changes in holdings as market conditions warrant or are anticipated. Such changes in the portfolio can be enjoyed without concern of tax consequences, while within the Common Trust. These tax advantages could not be realized in an individual program outside the shelter of a Keogh Plan.

CUSTODIAL ACCOUNT—

Most plans designed to date have been either a Trusteed Plan or a Custodial Account (Mutual Funds and Annuities). In order to maintain complete flexibiltiy for ARMA members, and to provide advantageously a free choice of retirement programs, the trustee bank has agreed to act as Custodian for those participants who might favor split-funding between Mutual Funds and Annuities.

MUTUAL FUNDS

By utliizing the trustee bank as Custodian the participant not only has a wide choice in Mutual Funds from a growth, yield or balanced aspect, but may, as conditions or desires change, revise his choice without tax jeopardy.

Mutual Funds may be used in both the general and contributory accounts.

ANNUITIES

Much consideration was given to the type of Annuity that would best qualify in producing the FIXED-DOLLAR and GUARANTEED INCOME to be offered as a portion of the overall program. Since it was anticipated that most deposits into this program would be on a split-funded basis it was decided therefore not to utilize a participating annuity to provide the expected additional and variable, though not guaranteed, result. This approach produced a decision to search out the most attractive developments in a non-participating Annuity to provide a pre-known and guaranteed basis of income.

After careful investigation, a carrier, strong and long experienced in the Annuity and tax sheltered fields, was selected. The product comes from their group pension department. The cost is based on group rates and has extremely high guaranteed settlement options. In addition to these guarantees they have, for many years, increased the returns by applying a current excess earnings factor. This factor is currently the highest in the industry. The excess factor in effect at retirement will remain constant throughout the life of the annuitant.

At retirement all, or portions of either of the growth funds, may be used to purchase Single premium Annuities. The Trustee, Custodian or Insurance Administrator will effect this transaction without tax impact.

INTERRUPTIONS IN EARNINGS

Of a certainty there will be participants whose incomes will be reduced or damaged during their years in the plan. Provisions have been made with the trustee to accommodate each situation on an individual basis should it become necessary to discontinue or diminish deposits. A complete flexibility has been maintained in this area of the plan as in all other areas.

INSURANCE

Both the Trustee and Custodial accounts, whether they be general or contributory, are designed to accept the full allowable deposit without penalty of reduction because of included insurance costs. We felt there should be available a "death benefit" and a "premium waiver" benefit. Again the insurance industry was researched for product and price. The results were good. Either or both of these supporting features are optional benefits outside the plan and will not reduce the deposits to your retirement fund.

The death benefit is low-cost Decreasing Term Insurance from purchase date to Age 65. The premium paying period is 80% of the coverage period. This insurance is provided by one of the nation's leading carriers.

Finding a carrier agreeable to providing disability coverage to create what is essentially a "Premium Waiver Benefit" for the combined account deposits, in the event of total disability, was not easy. Each carrier contacted had certain restrictions not favorable to our intent. Finally we returned to our annuity carrier with our problem specifications and, after much negotiating, obtained an ideal result. The policy is guaranteed renewable to Age 65. Benefits will be payable from the 181st day of disability to Age 65 for either total disability resulting from an accident or from an illness. The maximum benefit is $210 per month, sufficient to cover one deposit account of $2500 annually.

The outstanding consideration given us by the carrier is: waiving the maximum limits of coverage they will provide, or be a party to in co-insuring disability income insurance. Though the participant's present coverage is in excess of these limits this benefit may be added.

The policy will be assigned to the trustee or the custodian for remittance to the various parts of the program during the period of disability.

Since these two benefits are optional, evidence of insurability will be required by both carriers involved.

UNICHECK

Arrangements have been made with the trustee bank to accept one current and eleven post-dated checks to cover a full annual deposit for all phases of your program. Checks are to be made payable to the Trustee or the Custodian, as the case may be. This service is designed as an accommodation for participants desiring to make deposits less frequent than annually.

PROFESSIONAL CORPORATIONS

Unfortunately there is no provision within the Keogh Act covering the Professional Corporations. Since we do have some members involved in this type of an association we felt obliged to pursue a favorable approach for them. Upon our request the trustee bank agreed to offer their trust department services in designing and establishing a pension plan or a profit sharing plan for these members. They further agreed to apply the same fee structure to these plans as are basic in the Armada Plan "Common Trust."

CONCLUSION

Many hours of labor by many interested people have gone into this plan now being made available. We sincerely hope its broad and flexible scope will satisfy the retirement needs and desires of ARMA members. There is no question but what The Self-Employed Individuals Retirement Act in its form to become effective January 1, 1968, should be given serious consideration by and for qualified persons. However, don't overlook the 1967 deposited dollar. True, it enjoys only 50% deductibility but it will be the one to grow the most since it will be the one on deposit longest.

BOARD OF MEDICAL EXAMINERS

The Board of Medical Examiners of the State of Arizona at a regular meeting held Saturday, July 8, 1967, issued licenses to practice medicine in the State of Arizona to the following doctors of medicine:

4671 ABRAHAM, Edward N., M.D. (GP), 6611 North Central Avenue, Phoenix, Arizona 85012.

4672 ANDERSON, Jay H., M.D. (PATH), 1601 North Tucson Blvd., Bldg. 5, Tucson, Arizona 85716.

4673 AUSTIN, William J., M.D. (PD) 1355 North Beaver Street, Flagstaff Arizona 86001.

4674 BARNET, Ronald W., M.D. (OPH), 547 West Kaler Drive, Phoenix, Arizona 85021.

4675 Limited—BEESON, Charlotte M., M.D. (PD), 1825 E. Roosevelt Street, Phoenix, Arizona 85006.

4676 Limited – BOWER, Willis H., M.D. (ADM-P), 2500 E. Van Buren Street, Phoenix, Arizona 85008.

4677 BOZIN, Milivoj, M.D. (IM), Tucson Medical Center, Grant & Beverly, Tucson, Arizona 85716.

4678 BROCK, Joseph W., M.D. (D), 550 West Thomas Road, Phoenix, Arizona 85013.

4679 BYERS, Joseph R., M.D. (GP), 4022 Fleur Drive, Des Moines, Iowa.

4680 CAIN, William E., M.D. (ANES), 550 West Thomas Road, Phoenix, Arizona 85013.

4681 COLLIGAN, John L., M.D. (OBG), Maricopa County Hospital, Phoenix, Arizona 85009.

4682 CONNOR, Charles D., M.D. (PATH), 6025 North 20th Avenue, Phoenix, Arizona 85015.

4683 CONSTANT, Richard R., M.D. (GP), 1023 East Flornece Blvd., Casa Grande, Arizona 85222.

4684 CORDASCO, William, M.D. (P), 3352 East Camelback Road, Phoenix, Arizona 85018.

4685 COSMAS, Thomas E., M.D. (IM), Maricopa County Hospital, Phoenix, Arizona 85009.

4686 COZZI, Hugo L., M.D. (P), USPHS Hospital, New Orleans, Louisiana.

4687 Limited–CRAWFORD, Thomas I., M.D. (ANES), Maricopa County Hospital, Phoenix, Arizona 85009.

4688 Limited–CROSBY, David J., M.D. (IM), Pima County General Hospital, Tucson, Arizona.

4689 DALEY, Richard H., M.D. (ORS), 909 E. Brill Street, Phoenix, Arizona 85006.

4690 DICKSON, John V., M.D. (OTO), 26 Hatcher Drive, Sheppard AFB, Texas 76311.

4691 DITCHEK, Theodore, M.D. (R), Good Samaritan Hospital, Phoenix, Arizona.

4692 Limited – DORN, Russell, M.D. (GP), Student Health Service, University of Arizona, Tucson, Arizona.

4693 DOWLING, William J., M.D. (GP), 7025 East McDowell Road, Scottsdale, Arizona.

4694 ELGIN, Stephen S., M.D. (OPH), 8710 Old Georgetown Road, Bethesda, Maryland 20014.

4695 Limited – FIELD, Anthony H., M.D. (GP), Univ. of Arizona SHS, Tucson, Arizona.

4696 FINNERTY, James J., M.D. (OBG), 104 Paddock Street, Watertown, New York 13601.

4697 FORGACH, Ernset R., M.D. (IM), Morenci Hospital, Morenci, Arizona 85533.

4698 GLOW, David E., M.D., 11 Canyon Drive, Sierra Vista, Arizona.

4699 GOLDFARB, Robert P., M.D. (NS), 601 North Wilmot Road, Tucson, Arizona 85711.

4700 HARDY, David L., M.D. (ANES), 2222 N. Craycroft Road, Tucson, Arizona.

4701 HASSE, Robert G., M.D. (OBG), Good Samaritan Hospital, Phoenix, Arizona

4702 HENSLEY, Manuel, M.D. (OBG), Maricopa County Hospital, Phoenix, Arizona 85009.

4703 HUBER, Gerald A., M.D. (GP-ANES), 104 Elliott Lane, Defiance, Ohio 43512.

4704 KAPLAN, Jerrold M., M.D. (IM), U.S. Army Hosp., Heidelberg, APO New York 09102.

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4707 Limited – LAYTON, Jack M., M.D. (PATH), Univ. of Arizona, College of Medicine, Tucson, Arizona 85721.

4708 LEE, Jennie, M.D. (IM), Veterans Administration Hosp., Phoenix, Arizona.

4709 LEVSON, Daniel N., M.D., (D), 5200 Gibson Blvd., S.E., Albuquerque, New Mexico 87108.

4710 LEWIS, Ray, M.D. (P), 1624 West Adams Street, Phoenix, Arizona 85007.

4711 LOUGHEAD, Jr., John R., M.D. (OBG), Student Health Service, University of Arizona, Tucson, Arizona.

4712 McGLOTHIN, Lynn C., M.D. (GP), 1500 Williamson Avenue, Winslow, Arizona.

4713 McLAUGHLIN, David B., M.D. (GP), P. O. Box 687, Lake Havasu City, Arizona 86403.

4714 McWHIRTER, Wallace W., M.D. (R), 302 Walnut, Rochester, Michigan 48063.

4715 MACCABE, Jr., Frederic, M.D. (CHP), 1930 East 6th Street, Tucson, Arizona.

4716 MARCARELLI, Joseph, M.D. (IM), Maricopa County Hospital, Phoenix, Arizona 85009.

4717 MAXON, Terry R., M.D. (GP), Maricopa County Hospital, Phoenix, Arizona 85009.

4718 MEYER, Hermann B. P., M.D. (PD), 8438 East Roanoke, Scottsdale, Arizona 85257.

4719 MILLER, Richard C., M.D. (D), 116 North Tucson Blvd., Tucson, Arizona.

4720 MINK, Clifford E., M.D. (GP), 12670 N. Black Canyon Hwy., Phoenix, Arizona 85029.

4721 MOBLEY, Theodore L., M.D. (U), 550 West Thomas Road, Phoenix, Arizona 85013.

4722 MOORE, Jr., Thomas H., M.D. (OTO), 2122 N. Craycroft Road, Tucson, Arizona.

4723 NOON, George P., M.D. (GS-TS), 1200 Moursund Avenue, Houston, Texas 77025.

4724 NORDMO, Stanley H., M.D. (PATH), Maricopa County Hospital, Phoenix, Arizona 85009.

4725 O'HAYRE, Walter L., M.D. (GP), 800 West Littleton Blvd., Littleton, Colorado 80120.

4726 OLSZTYN, Stanley R., M.D. (P), 18326 Muirland, Detroit, Michigan.

4727 ORVIS, Clay H., M.D. (GP), 6101 East 7th Street, Long Beach, California 90801.

4728 Limited – OSHER, Norman W., M.D. (IM), Maricopa County Hospital, Phoenix, Arizona 85009.

4729 PEARL, Janice M., M.D. (NS), 350 West Thomas Road, Phoenix, Arizona 85013.

4730 PENTECOST, Richard L., M.D. (P), 600 East 22nd Street, Kansas City, Missouri.

4731 RADA, Gary A., M.D. (GP), 311 East Relation, Safford, Arizona.

4732 RAPHAEL, Damon S., M.D. (OBG), 116 North Tucson Blvd., Tucson, Arizona 85702.

4733 Limited—RODGERS, Bradford D., M.D. (GP), Arizona Children's Colony, Coolidge, Arizona 85228.

4734 RODRIGUEZ, Paul L., M.D. (R), L. A. Community Hospital, Unit 11, Los Angeles, California.

4735 RYAN, Patty J., M.D. (GP), 411 Gibson Road, Woodland, California 95695.

4736 SCHAEFFER, Richard J., M.D. (P), 55 East 87th Street, New York, New York 10028.

4737 SCHAMADAN, James L., M.D. (GP), Arizona State University, Tempe, Arizona.

4738 SEATON, Robert W., M.D. (OBG), 926 E. McDowell Road, Phoenix, Arizona 85006.

4739 SELF, Cameron L., M.D. (PATH), 1550 East Indian School Road, Phoenix, Arizona 85014.

4740 SHILL, Jr., Otto S., M.D. (OTO), 2039 South Mill Avenue, Tempe, Arizona.

4741 SIBLEY, William A., M.D. (N), Univ. of Ariz. Col. of Med., Tucson, Arizona 85721.

4742 SIEGEL, Philip, M.D. (NS), St. Joseph's Hospital, Phoenix, Arizona 85001.

4743 STEVENS, Houston F., M.D. (R), Maricopa County Hospital, Phoenix, Arizona 85009.

4744 STONER, Harry, M.D. (GS), V. A. Hospital, Tucson, Arizona 85713.

4745 SULLIVAN, William R., M.D. (GP), 702-8th Avenue, Safford, Arizona 85546.

4746 SZYMANSKI, Jerome F., M.D. (P), 6411 East Thomas Road, Scottsdale, Arizona 85251.

4747 TROWBRIDGE, Jr., Arthur A., M.D. (GP), USPHS Indian Hospital, Sells, Arizona.

4748 WALDMAN, Robert S., M.D. (R), 1033 East McDowell Road, Phoenix, Arizona 85006.

4749 WEILAND, Dennis E., M.D. (GS), Maricopa County Hospital, Phoenix, Arizona 85009.

4750 WHITE, Jr., Joseph C., M.D. (N), 350 West Thomas Road, Phoenix, Arizona 85012.

4751 WOHL, Richard H., M.D. (PS), 909 East Brill Street, Phoenix, Arizona 85006.

4752 YARBROUGH, Ocie C., M.D. (D), Rt. 5, Box 336, Little Rock, Arkansas 72207.

TEMPORARY LICENSES CURRENTLY IN EFFECT

Name, Location	Issued	Expires
Christ, Ronald L. (GP), Yuma	2/ 8/67	8/ 8/67
Sooy, Norman C. (GP), Grand Canyon	2/ 8/67	8/ 8/67
Ruesch, McLaren (GP), Miami	3/13/67	9/13/67
White, Jr., John V. (ADM), (Renewal), Ariz. Children's Colony	3/12/67	9/12/67
Willy, Ralph G. (R) (Renewal) Douglas	4/27/67	10/27/67
Spaeth, Alexander (GP), So. Pacific Mem. Hosp.	5/ 8/67	11/ 8/67
Sneed, Thomas F. (R), Yuma	5/18/67	11/18/67
Fee, Charles H. (GP), Young	5/18/67	11/18/67
Vandermyde, Richard C. (GP), Ganado	6/ 5/67	12/ 5/67
MacGregor, Robert J. (R) (Renewal), Sierra Vista	6/ 6/67	12/ 6/67
Francis, Jonathan (GP), Grand Canyon	6/27/67	12/26/67
Billings, Anthony C. (GP), St. Luke's Hosp.	6/29/67	12/29/67
Feldman, Marc S. (OPH), (Renewal), Douglas	6/30/67	12/30/67
Stutsman, Robert E. (P), Ariz. State Hosp.	6/27/67	12/27/67
Proffitt, Robert D. (PD-GP), Ganado	7/ 1/67	1/ 1/68
Coy, John R. (GP), Ajo	7/ 1/67	1/ 1/68
Cotner, III, Jos. Sidney (GP), Pima Co. Gen. Hosp.	7/ 8/67	1/ 8/68
Johnson, Carl E. (OBG), Ganado	7/ 8/67	1/ 8/68
Spaeth, Alexander (GP), Pima Co. Gen. Hosp.	7/ 8/67	1/ 8/68
Weistart, Frank David (GP), Maryvale	7/ 8/67	1/ 8/68
Martin, Jerry G. (OBG), Flagstaff	7/20/67	1/20/68
Dugan, Victor H. (GP), East Mesa-Apache Wells	7/25/67	1/25/68
Brandt, Robert I. (GS), Ganado	7/29/67	1/29/68
Pannozzo, Anthony N. (PM), Good Samaritan Hosp.	8/ 1/67	2/ 1/68
Thompson, Richard A. (N), Barrow Neur. Institute	8/ 1/67	2/ 1/68

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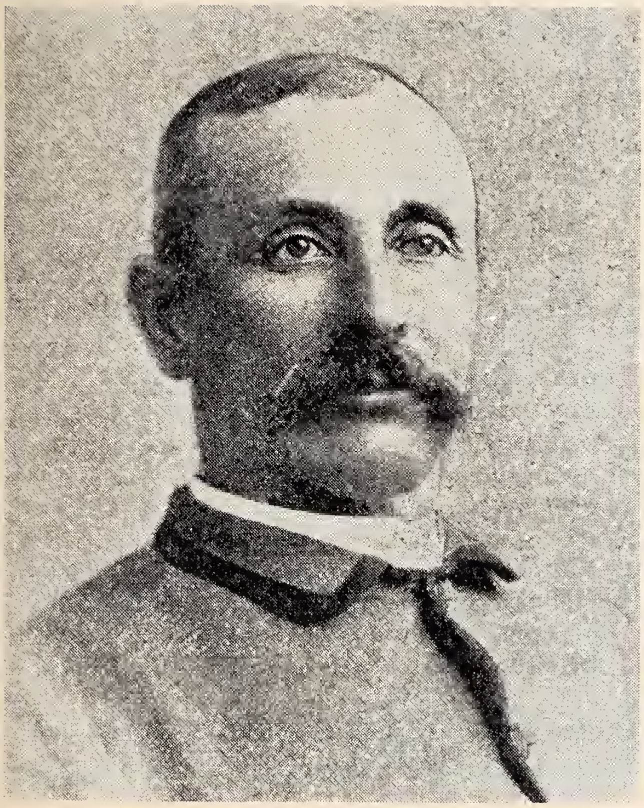

JOSHUA MILLER, M.D., FIRST PRESIDENT OF ARIZONA MEDICAL ASSOCIATION, 1892

Dr. Joshua Miller, who was instrumental in organizing the medical profession of Arizona, beginning with the Yavapai County Society, then the Maricopa County Society, then the Arizona Medical Association, of all of which he was the first president, was born in Macon County, Missouri, on the fifth day of May, 1846. In 1852, his parents moved to Atchison County, which was then the extreme frontier; in this county he spent his earlier years, working on the farm in summer and attending school in winter.

When the Civil War broke out in 1861, he enlisted in the Northern army, serving throughout the war. He then decided upon medicine as his future life work, and began fitting himself for that profession. He attended the Brownville (Neb.) High School, and, during vacation, placed himself under the instruction of Dr. William Arnold, a gentleman who had had the advantages of a liberal London education in both literature and medicine. Under the guidance of this good man and scholar, he was taught the elements of medicine, as well as the principles of a general education.

In the fall of 1868, he passed the preliminary education required by the University of Michigan and entered the medical department, graduating March 27, 1872 (in the same class with Dr. Ford and in which Dr. J. M. Swetnam was enrolled). He took post-graduate work in Bellevue Hospital Medical College in 1879. In 1871 he moved from Michigan to Kansas City, Mo., where he became one of the incorporators and directors of the University Medical College. He was elected by the Board of Regents to the chair of Orthopedic Surgery, which chair he resigned in 1888, coming to Prescott, Ariz., to engage jointly in the practice of medicine and in mining.

In 1891, Acting-Governor N. O. Murphy appointed him Superintendent of the Insane Asylum, which place he held during that administration, returning to Prescott in 1894. During his residence in Phoenix, he helped organize the Maricopa County Society, and was elected president of the Arizona Medical Association at its first annual meeting in 1892. He returned to Prescott in 1894 and resumed his mining activities and, later, the practice of his profession. In August, 1898, he was again appointed superintendent of the Insane Asylum, resigning that office in April, 1901, because of ill health. He passed away July 22, 1901, as the result of the fourth attack of double pleuro-pneumonia. (Biography furnished by Mrs. Mattie Miller, Phoenix, Ariz.)

Source: ARIZONA MEDICAL JOURNAL Vol. 2, No. 9, October 1914

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New Drugs: 1967 edition Evaluated by A.M.A. Council on Drugs, American Medical Association, 535 N. Dearborn St., Chicago, Ill. 60610, 1967, pp 590, 16 x 24 cm., $3.50.

The physician must have readily available sources of balanced, authoritative information in order to cope effectively with the complexities of modern pharmacotherapy. **New Drugs,** a publication of the A.M.A. Council on Drugs, now in its third edition, provides such information on new drugs.

The 1967 edition of **New Drugs** is a compilation of introductory statements on various therapeutic classes of drugs and monographs on single-entity drugs marketed in the United States during the period 1957-1966. It contains 265 individual drug monographs, each of which gives information on the actions and uses of the drug and its adverse reactions, contraindications or precautions, dosages and routes of administration, and sizes and strengths of available preparations. The introductory statements to 21 chapters have been thoroughly revised and 10 new monographs have been added. These monographs and introductory statements are based on a thorough review and evaluation by the Council on Drugs and its consultants of all of the laboratory and clinical information, including unpublished data, available to them. Thus, the book presents a concise, unbiased assessment of the newer drugs within the perspective of the therapeutic application of all of the commonly used agents in a particular class of drugs. Since a monograph on a drug is included whether or not the Council's opinion is favorable, **New Drugs** is in no sense a list of approved or accepted drugs.

The index lists drugs by both their nonproprietary (generic) and trade names and includes therapeutic entries. A list of Canadian trade names equivalents is given in the appendix.

Coccidioidomycisis: Edited by Libero Ajello, Pp. 434. The University of Arizona Press, Tucson, 1967.

This publication of The Second Symposium on Coccidioidomycosis, December, 1965, has been anxiously awaited. The increasing reported incidence of disease due to coccidioides immitis, with the attendant difficulties in diagnosis and treatment, makes this publication very timely. It seems neither practical nor reasonable to expect medical students or physicians to review the literature for latest opinions. As stated by Dr. Ajello, "The clinical, histopathological, and therapeutic features of the disease were discussed by the most active and knowledgeable of investigators."

For the researcher this is an important fungus disease. Significant biochemical, ecological, epidemiological, and genetical studies are also reported. For Arizonans, the publication of these proceedings represents a milestone. Not only did Arizonans serve as active participants in program planning and arrangements, but they also served as contributors and discussants in the program. The University of Arizona Press is to be congratulated on the technical excellence.

The book is recommended as an up-to-date summary of the opinions of the most recognized authorities in this field. While the original papers contained will be published elsewhere, access in one volume for researchers, medical students, and practicing physicians should prove valuable.

Lloyd K. Swasey, M.D.
Medical Director
Arizona State Tuberculosis San.

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CONTRIBUTIONS

The Editor sincerely solicits contributions of scientific articles for publication in ARIZONA MEDICINE. All such contributions are greatly appreciated. All will be given equal consideration.

Material submitted for publication in ARIZONA MEDICINE should conform to the following policies:

1. Manuscripts, including references or bibliography, should be typewritten, double-spaced, on one side of the paper only, and the original and a carbon enclosed.
2. Be guided by the general rules of medical writing as followed by the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.
3. Although the Editors try to catch inaccuracies, the ultimate responsibility is the author's.
4. Articles are accepted for publication only if they are contributed exclusively to this Journal. Ordinarily, contributors will be notified within 60 days if a manuscript is accepted for publication. Every effort will be made to return unused manuscripts.
5. The Journal reserves the right to edit all material.
6. Reprints will be supplied to the author at printing cost.

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2-5 yr. . . . 1 tsp. t.i.d. (6 mg.)
5-8 yr. . . . 1 tsp. q.i.d. (8 mg.)
8-12 yr. . . 1 tsp. 5 times daily (10 mg.)
Adults: 2 tsp. 5 times daily (20 mg.)
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*Based on 4 cc. per teaspoonful.
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Precautions: Lomotil is a federally exempt narcotic preparation of very low addictive potential. Recommended dosages should not be exceeded, and medication should be kept out of reach of children. Should accidental overdosage occur signs may include severe respiratory depression, flushing, lethargy or coma, hypotonic reflexes, nystagmus, pinpoint pupils and tachycardia. Lomotil should be used with caution in patients with impaired liver function or those taking addicting drugs or barbiturates.

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1. Barowsky, H., and Schwartz, S. A.: J.A.M.A. *180*:1058-1061 (June 23) 1962. 2. Cayer, D., and Sohmer, M. F.: N. Carolina Med. J. *22*:600-604 (Dec.) 1961. 3. Hock, C. W.: J. Med. Ass. Georgia *50*:485-488 (Oct.) 1961. 4. Van Derstappen, G., and Vandenbroucke, G.: Med. Klin. *56*:962-964 (June 2) 1961. 5. Merlo, M., and Brown, C. H.: Amer. J. Gastroent. *34*:625-630 (Dec.) 1960. 6. Weingarten, B.; Weiss, J., and Simon, M.: Amer. J. Gastroent. *35*:628-633 (June) 1961.

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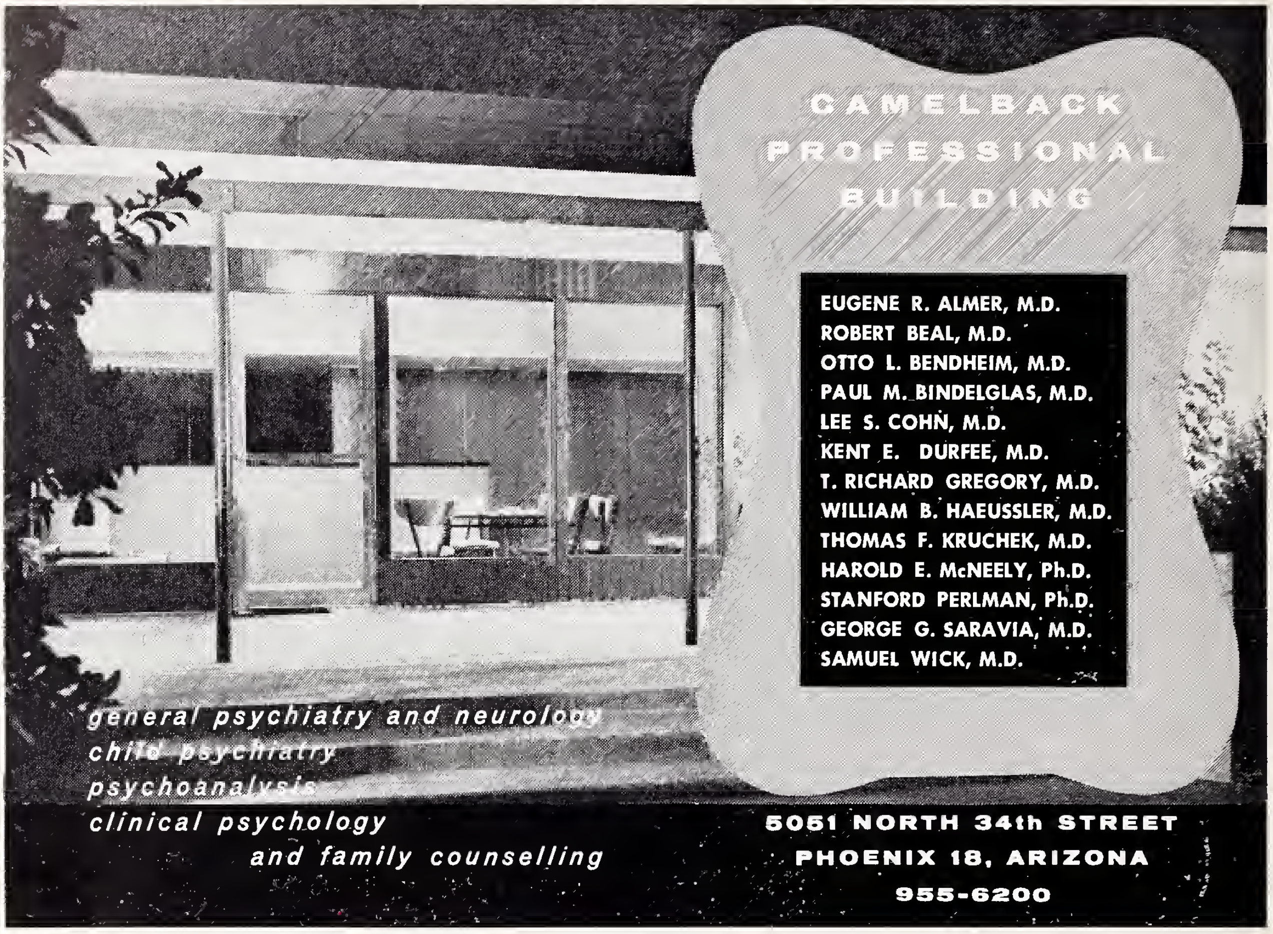

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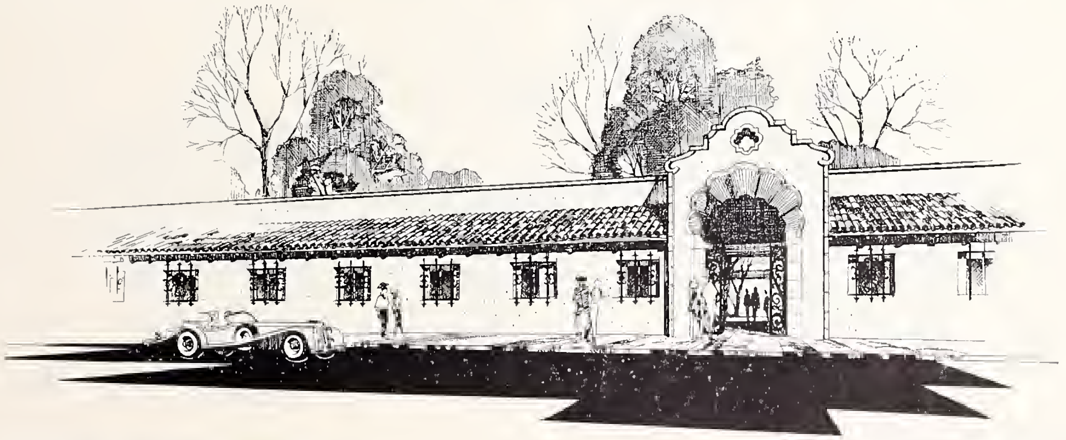

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Vol. 24, No. 11

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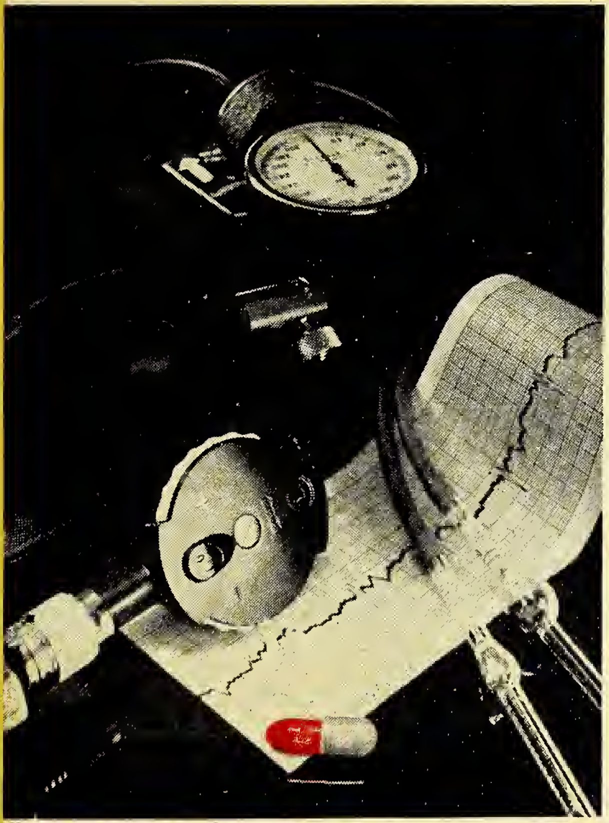

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(1) Siver, R. H.: CMD, *21*:109, September 1954. (2) Frykman, H. H.: Minn. Med., *38*:19-27, January 1955. (3) McGivney, J.: Tex. State Jour. Med., *51*:16-18, January 1955. (4) Quehl, T. M.: Jour. of Florida Acad. Gen. Prac., *15*:15-16, October 1965. (5) Weekes, D. J.: N.Y. State Jour. Med., *58*:2672-2673, August 1958. (6) Weekes, D. J.: EENT Digest, *25*:47-59, December 1963. (7) Abbott, P. L.: Jour. Oral Surg., Anes., & Hosp. Dental Serv., 310-312, July 1961. (8) Rapoport, L. and Levine, W. I.: Oral Surg., Oral Med. & Oral Path., *20*:591-593, November 1965.

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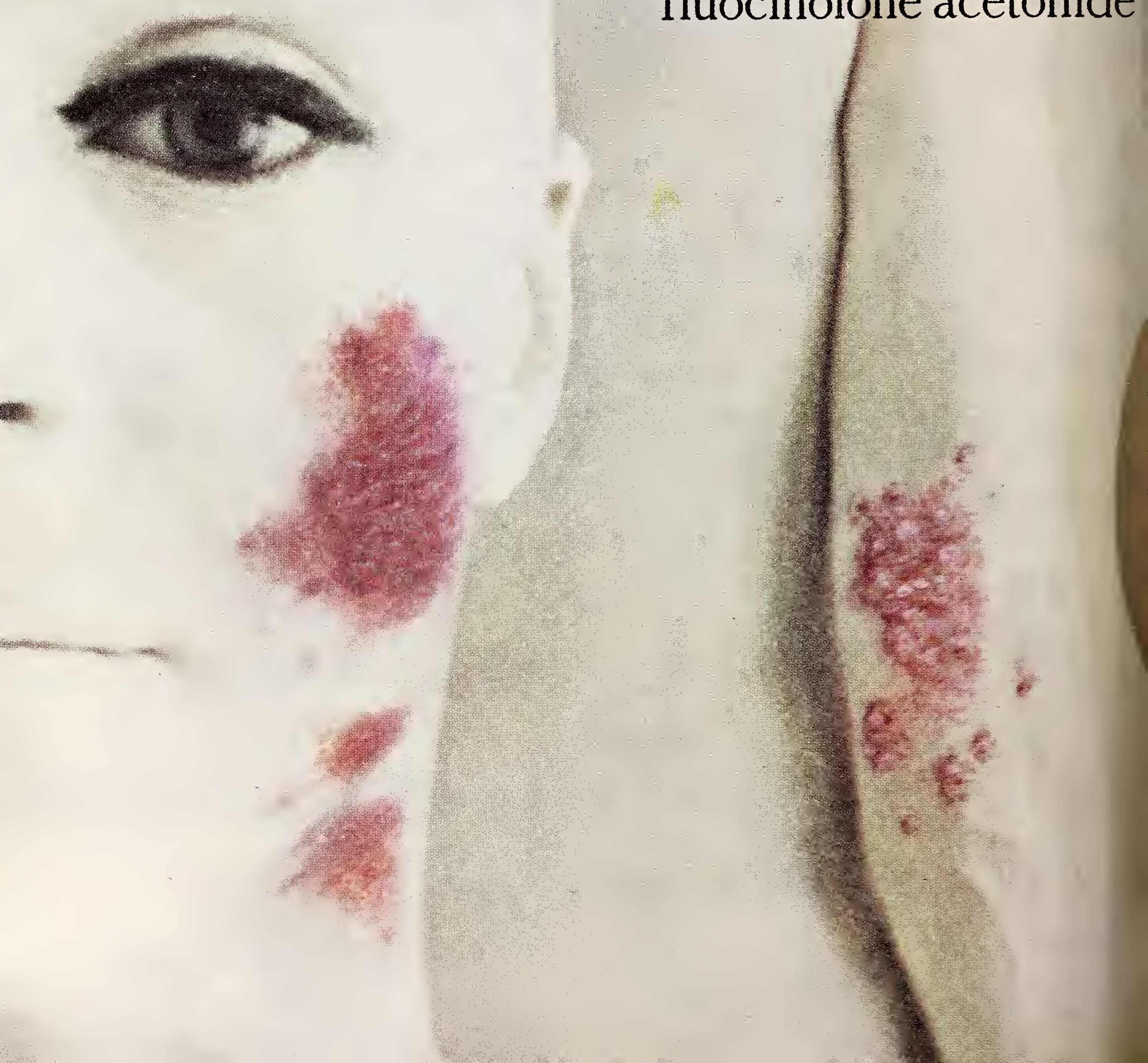

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Precautions: Pretreatment physical should include examination of the breasts and pelvic organs, as well as a Papanicolaou smear. If endocrine or liver function tests are abnormal during therapy, repeat tests are recommended after the drug has been withdrawn for two months. Following administration of drug, preexisting uterine fibromyomata may increase in size. Careful observation and caution are required for patients with symptoms or history of epilepsy, migraine, asthma, cardiac or renal dysfunction, cerebrovascular accident, psychic depression, and diabetes. In cases of undiagnosed vaginal bleeding, adequate diagnostic measures are indicated. Possible long-term effects of the drug on pituitary, ovarian, adrenal, hepatic or uterine function must await further studies. The physician should be alert to the earliest manifestations of thrombophlebitis and pulmonary embolism. The drug should be used judiciously in those young patients in whom bone growth is not complete. The age of the patient constitutes no absolute limiting factor, although treatment with Norinyl-1 may mask symptoms of the climacteric. The pathologist should be advised of Norinyl-1 therapy when relevant specimens are submitted.

Side Effects: The following have been observed with varying incidenc in patients receiving oral contraceptives: nausea, vomiting, gastrointestinal symptoms, breakthrough bleeding, spotting, change in menstrual flow, amenorrhea, edema chloasma or melasma, breast chang (tenderness, enlargement and secretion), change in weight (increas or decrease), changes in cervical erosion and cervical secretions, suppression of lactation when given immediately postpartum, cholestati jaundice, migraine, rash (allergic), rise in blood pressure in susceptible individuals, mental depression. Although the following side effects have been reported in users of oral contraceptives, no cause and effect relationship has been established: anovulation posttreatment, premenstruallike syndrome, changes in libido, changes in appetite, cystitis-like syndrome, headache, nervousness, dizziness, fatigue, backache, hirsutism, loss of scalp hair, erythema multiforme, erythema nodosum, hemorrhagic eruption, an itching. The following occurrences have been observed in users of oral contraceptives (a cause and effect relationship has neither been established nor disproved): thrombophlebitis, pulmonary embolism, neuroocular lesions.

The following laboratory tests may be altered by the use of oral contraceptives: increased sulfobromophthalein and other hepatic functio tests, coagulation tests (increase in prothrombin, factors VII, VIII, IX and X), thyroid function (increase i PBI and butanol extractable protein-bound iodine and decrease in T^3 values), metyrapone test, pregnanediol determination.

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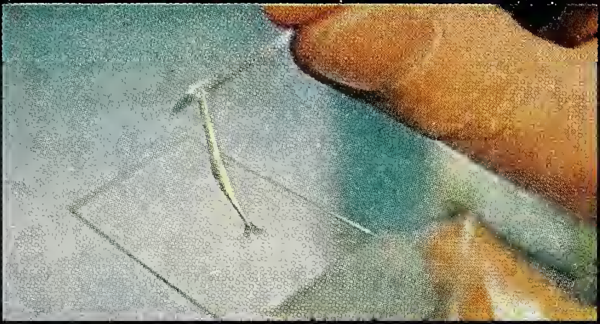
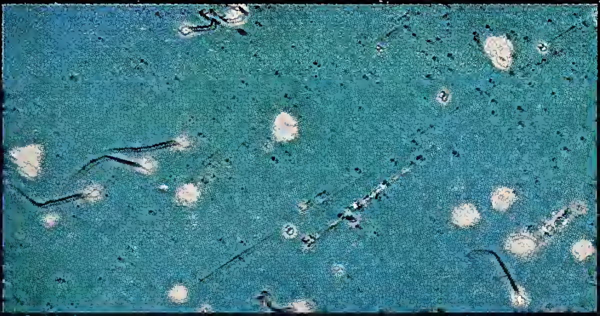
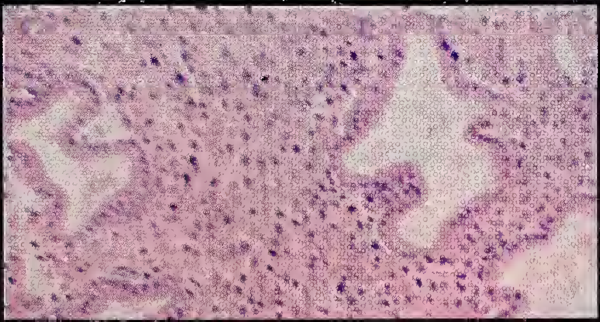
Untreated Patient



Cervical mucus at midcycle is usually thin and watery, with Spinnbarkeit (stretchability) of 15 to 20 cm.

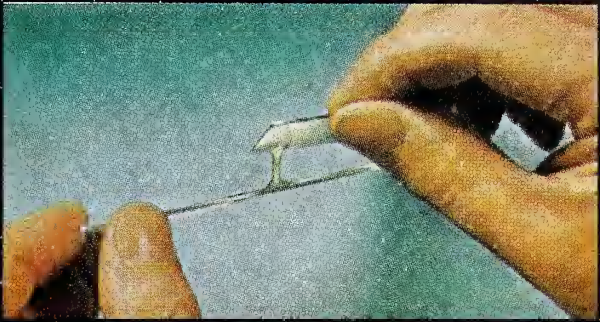


Spermatozoa appear healthy, active, freemoving.

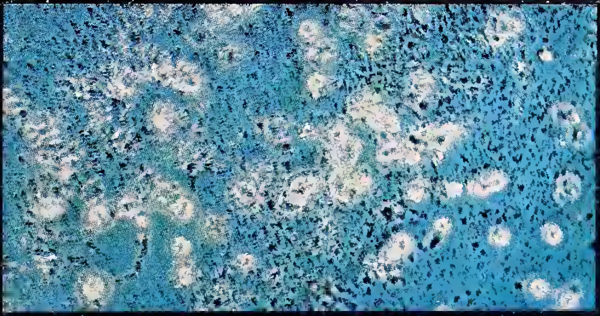


Endometrium of untreated patient is receptive to the fertilized ovum during secretory phase.

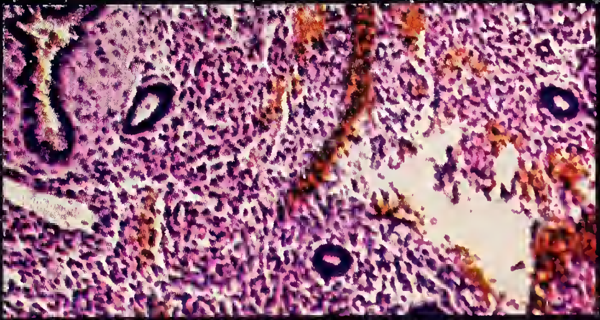
Norinyl-1 Patient



Cervical mucus at midcycle is scanty, viscous—with Spinnbarkeit of 1 cm. or less.



Immobile spermatozoa as they appear in cervical mucus taken from patient treated with Norinyl-1.



Norethindrone in Norinyl-1 accelerates secretory phase, suppresses glandular and vascular development.

Norinyl®-1 tablets
(norethindrone 1mg. c̄ mestranol 0.05mg.)

- new low dose of time-proved ingredients
- established norethindrone/mestranol ratio
- lower patient cost

In Arizona...
These Syntex men serve the physician

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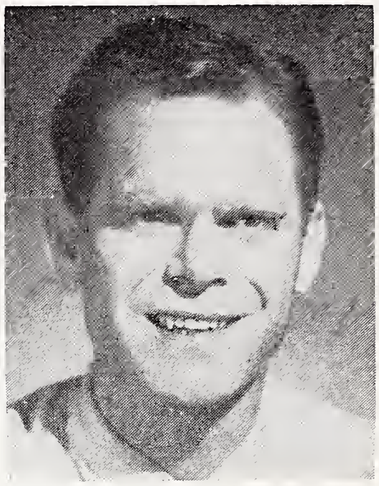

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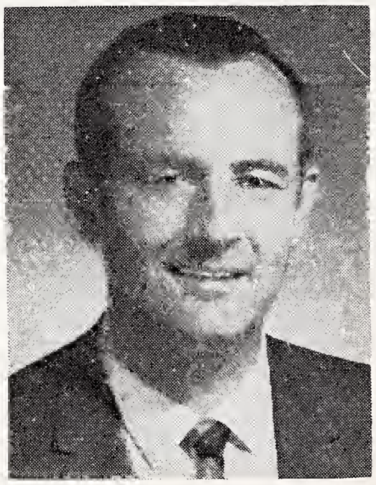

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Board Of Family Practice?

From the Board of Directors of the Arizona Academy of General Practice, in a response to a motion made in a meeting held July 30, 1967, comes a letter requesting consideration for reproducing an article appearing in the March/April edition of CALIFORNIA GP.

This same group recognizes the possibility of controversy arising should the article be published, and further recognizes, and so states, that controversy may result in a better understanding.
The title of the article is "More and Better GP's – Fewer and Better Surgeons," and being unsigned, is reproduced as a reprint editorial in this issue of ARIZONA MEDICINE on page 1115.

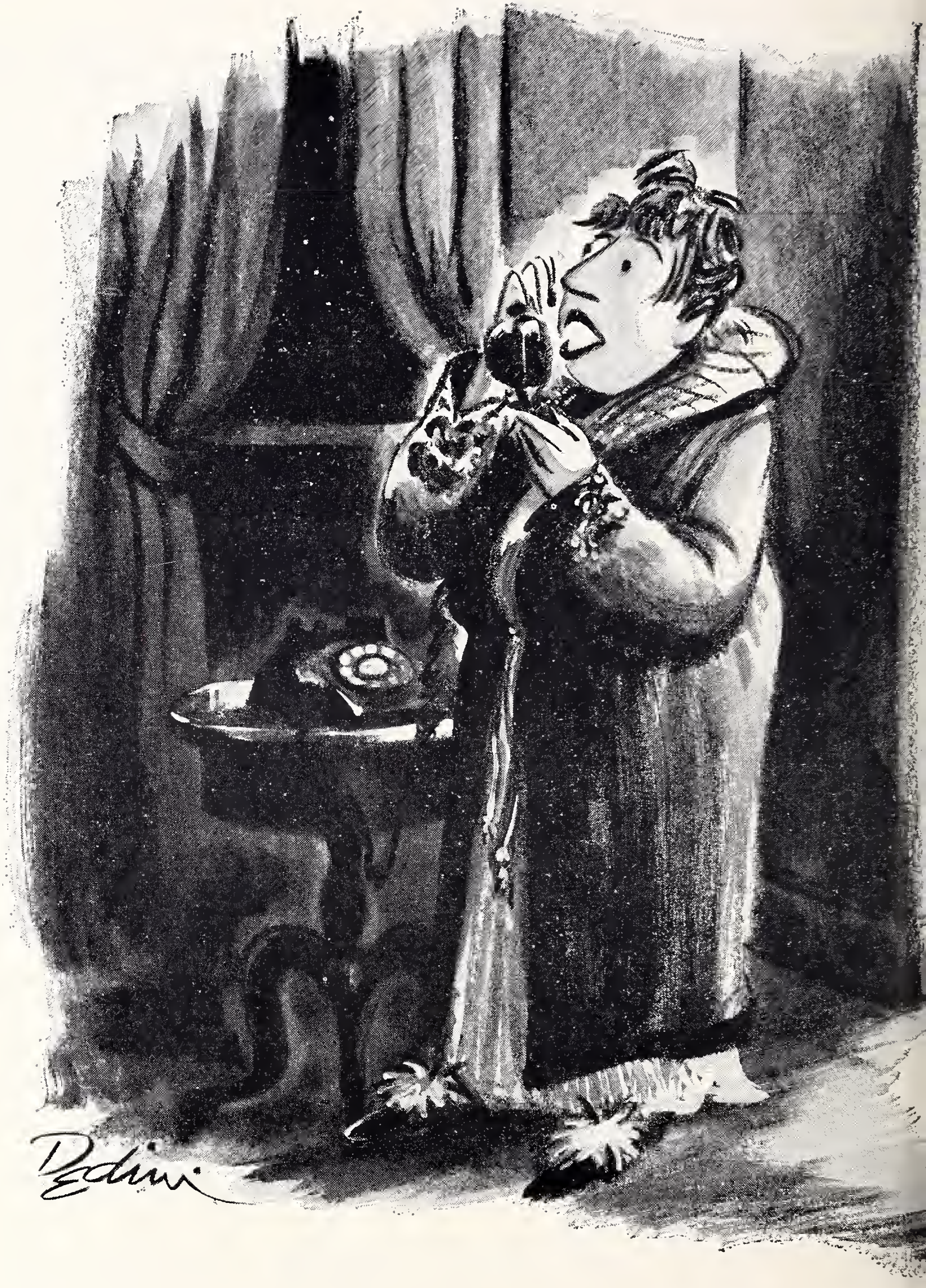
We would take no particular stand on the article itself, but reproduce it and invite special attention to the editorial comment immediately following the article. Portions of the editorial comment are extracted for special thought and consideration. They are as follows:

"To feel that the offering of a Board Certificate (Board of Family Practice) as a means of attracting students to careers in so-called family practice is grossly overvaluing the importance of certification."

"Medicine is becoming more complex on one hand but treatment and care are just as often more simplified and effective. In many cases a general practitioner is able to adequately handle cases today that were specialty cases just twenty years ago."

An inevitable choice is again presented. ARIZONA MEDICINE feels that no problem is insoluable as long as both sides are adequately presented, weighed and evaluated and an impartial, practical, and unemotional conclusion is reached.

Roland F. Schoen, M.D.
Editor

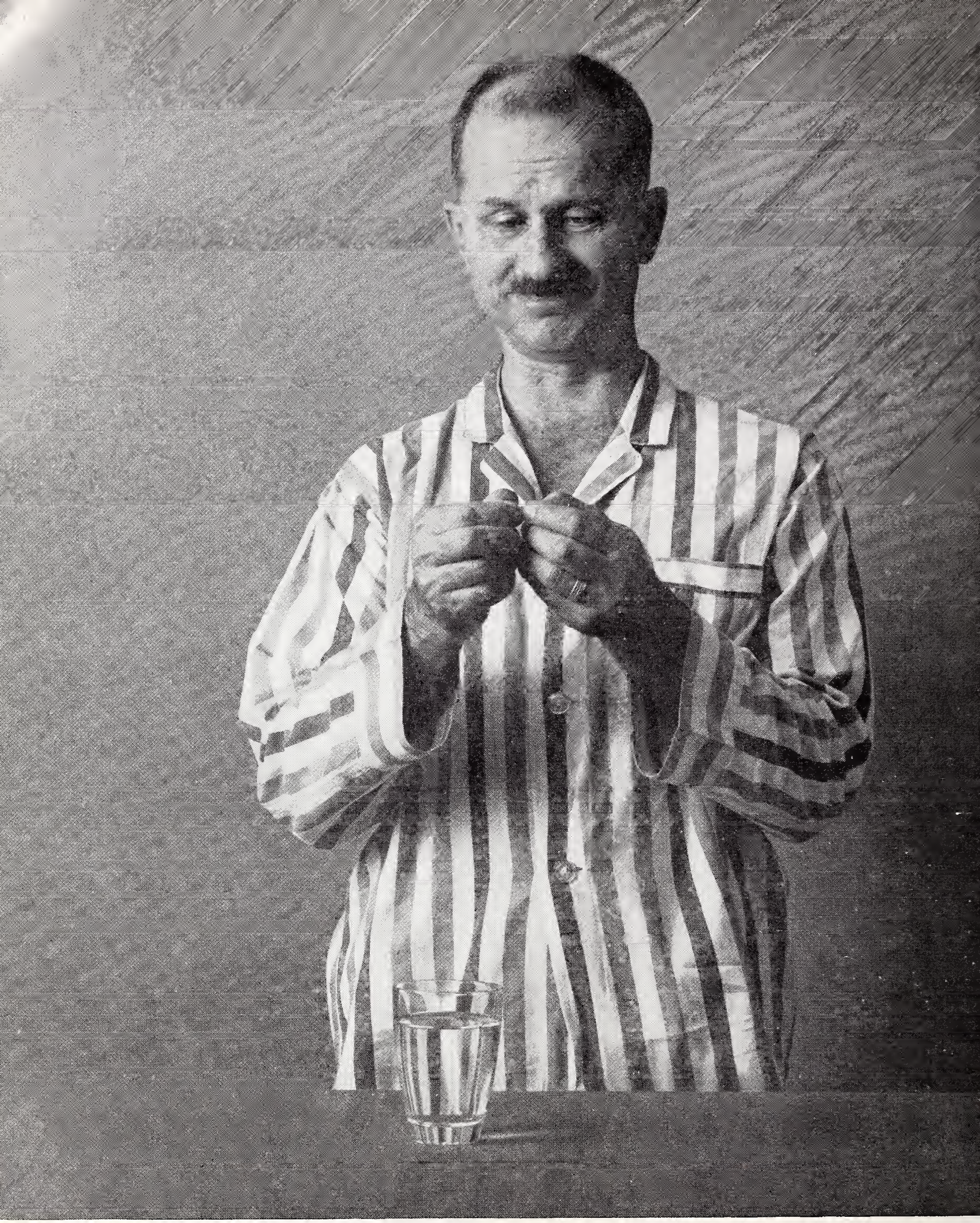


"George wants to know if it's okay to take his cold medicine now, Doctor, instead of seven o'clock?"

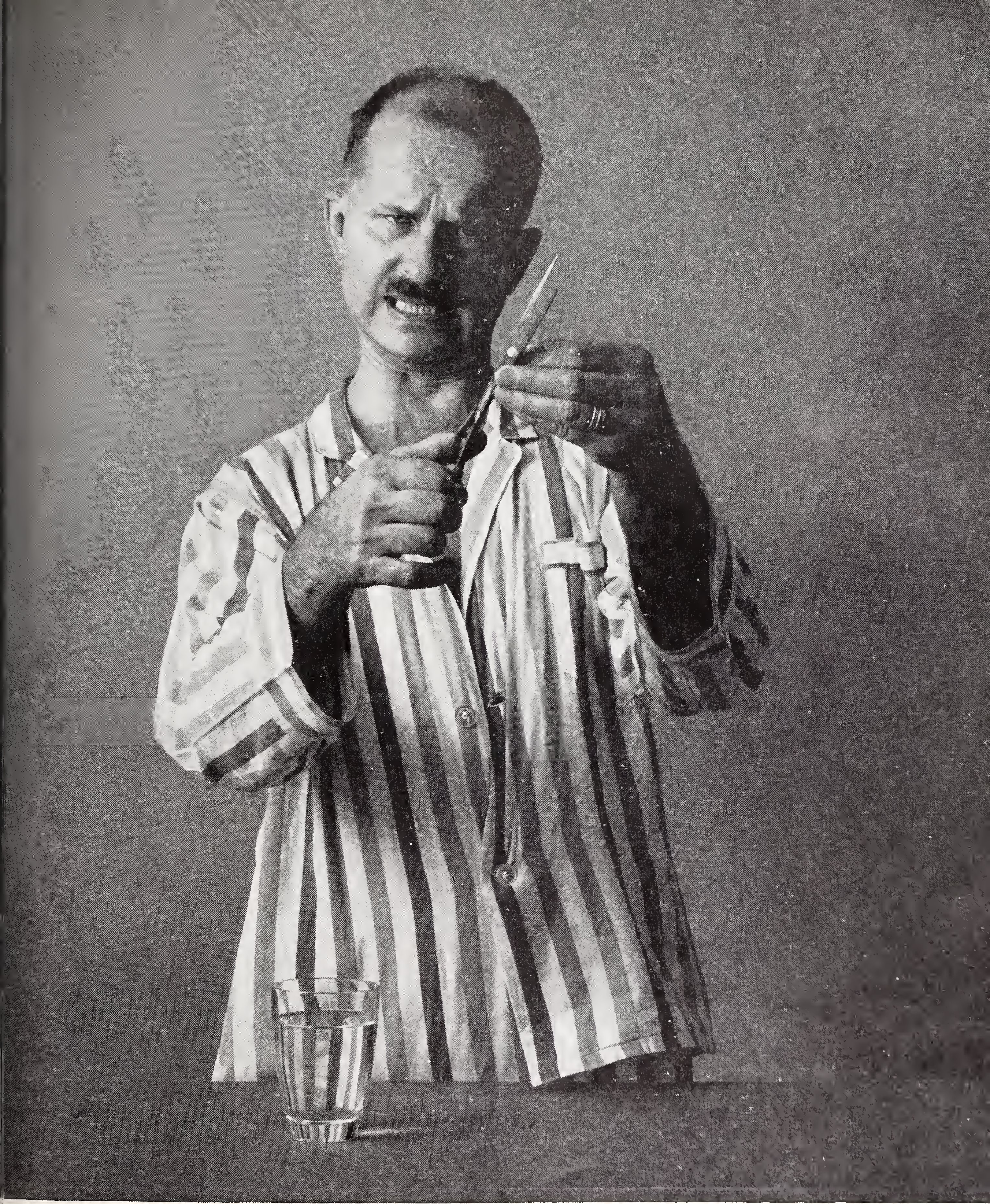
The long-continued action of Novahistine LP should help you both get a good night's sleep. Two tablets in the morning and two in the evening will usually provide round-the-clock relief by helping clear congested air passages for freer breathing. Novahistine LP also helps restore normal mucus secretion and ciliary activity—normal physiologic defenses against infection of the respiratory tract. Use cautiously in individuals with severe hypertension, diabetes mellitus, hyperthyroidism or urinary retention. Caution ambulatory patients that drowsiness may result. Each Novahistine LP tablet contains: phenylephrine hydrochloride, 25 mg., and chlorpheniramine maleate, 4 mg.

NOVAHISTINE® LP

DOW **PITMAN-MOORE** Division of The Dow Chemical Company, Indianapolis



Maybe you don't want
your patients to halve Hygroton®chlorthalidone.



ʼlaybe your patients complain: ʼVhy don't they make a tablet I don't have to halve?"

ʼase see brief prescribing summary at the end of advertisement.

Maybe you abandoned Hygroton chlorthalidone
because there wasn't a convenient half strength.

ations: Hypertension and many types of
a involving retention of salt and water.

aindications: Hypersensitivity and most
; of severe renal or hepatic disease.

ing: With the administration of enteric-
d potassium supplements, which should
ed only when adequate dietary supple-
ation is not practical, the possibility of
bowel lesions (obstruction, hemor-
, and perforation) should be kept in
Surgery for these lesions has fre-
ly been required and deaths have oc-
d. Discontinue enteric-coated potas-
supplements immediately if abdominal
distention, nausea, vomiting, or gastro-
inal bleeding occur.

ith caution in pregnant patients, since
ug may cross the placental barrier and
se reactions which may occur in the
(thrombocytopenia, hyperbilirubinemia,
d carbohydrate metabolism, etc.) are
tial problems in the newborn.

utions: Antihypertensive therapy with
ton should always be initiated cau-
y in postsympathectomy patients and
ients receiving ganglionic blocking
s or other potent antihypertensive drugs,
are. Reduce dosage of concomitant
pertensive agents by at least one-half.
turates, narcotics or alcohol may po-
te hypotension. Because of the possi-
of progression of renal damage, peri-
letermination of the BUN is indicated.
ntinue if the BUN rises or liver dysfunc-
aggravated. Hepatic coma may be
itated.

olyte imbalance, sodium and/or potas-
lepletion may occur. If potassium deple-
hould occur during therapy, Hygroton
l be discontinued and potassium sup-
nts given, provided the patient does
ve marked oliguria.

special care in cirrhosis or severe
mic heart disease and in patients re-
g corticosteroids, ACTH, or digitalis.
estriction is not recommended.

se Reactions: Nausea, gastric irritation,
ng, anorexia, constipation and cramp-
izziness, weakness, restlessness, hy-
cemia, hyperuricemia, headache, mus-
amps, orthostatic hypotension, aplastic
a, leukopenia, thrombocytopenia,
ulocytosis, impotence, dysuria, transient
a, skin rashes, urticaria, purpura, nec-
g angiitis, acute gout, and pancreatitis
epigastric pain or unexplained G.I.
oms develop after prolonged adminis-
. Other reactions reported with this
of compounds include: jaundice, xan-
a, paresthesia, and photosensitization.

ge Dosage: One tablet with breakfast
r every other day.

bility: White, single-scored tablets of
. and aqua tablets of 50 mg., in bot-
100 and 1000. (B)46-230-D

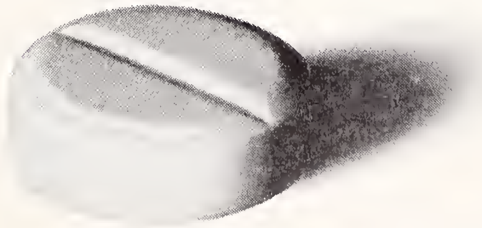
**l details, please see the complete
ibing information.**

Pharmaceuticals
on of
Chemical Corporation
y, New York

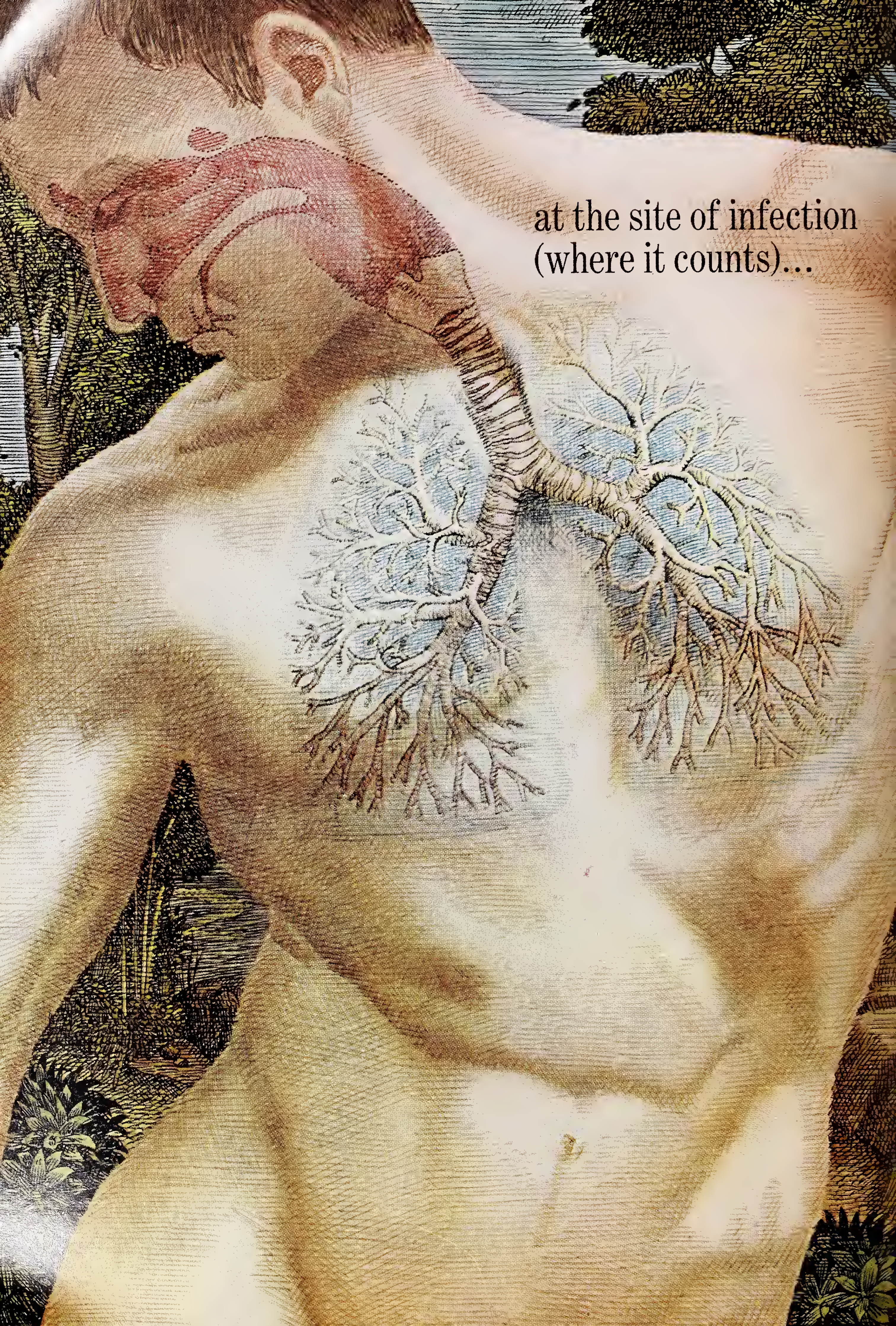
Here's the Hygroton they don't have to halve

New Hygroton 50 mg. from Geigy

to go with the Hygroton 100 mg. you know



HY-5406


at the site of infection
(where it counts)...

Ilosone® provides more antibacterial activity than any other oral erythromycin

Acid stable, better absorbed . . . Ilosone produces faster, higher, more prolonged blood levels, even in the presence of food[1-3]

Because it is the most active form of oral erythromycin, Ilosone can help assure consistently greater antibacterial activity at the site of infection. Ilosone produces peak antibacterial blood levels two to four times those of other erythromycin preparations.[1,2] Not only are these levels attained earlier, but they are maintained for much longer periods. Even the presence of food does not seem to affect the activity of Ilosone.[1,3]

In the treatment of patients with bacterial infections susceptible to erythromycin, Ilosone has compiled an excellent therapeutic record. Since it exerts its greatest activity against gram-positive organisms, it is particularly useful in common respiratory and soft-tissue bacterial infections. Ilosone kills—not merely inhibits—streptococci, pneumococci, and more strains of staphylococci than any other macrolide antibiotic. This bactericidal action, coupled with the high antibacterial levels attained, makes Ilosone especially valuable in patients with low host resistance, such as infants, debilitated individuals, and diabetics.

Ilosone has shown no cross-resistance with penicillin and may be effective against organisms that have become resistant to that agent. Despite its high antibacterial activity, Ilosone has demonstrated a low incidence of side reactions. Blood dyscrasias, ototoxicity, and tooth staining have not been observed. Infrequent cases of drug idiosyncrasy, manifested by a cholestatic jaundice, have occurred, but there have been no known definite residual effects.

Now available:
New! Ready-mixed Ilosone Liquid 125! (Contains erythromycin estolate equivalent to 125 mg. erythromycin base per 5-cc. teaspoonful.)

701464

Ilosone®
Erythromycin Estolate

Lilly

(See next page for prescribing information.)

Ilosone®/the most active oral form of erythromycin

Description: Ilosone is the most active form of oral erythromycin that has been developed. Because it is stable in acid, well absorbed, and excreted in lesser amounts in the bile, it provides faster, higher, and longer-lasting levels of antibacterial activity (ABA) in the serum, even when taken with food, than do comparable doses of erythromycin.

Indications: Ilosone is indicated in infections caused by micro-organisms sensitive to its action—especially staphylococci, hemolytic streptococci, and pneumococci.

It has been effective in streptococcus infections, particularly acute bacterial pharyngitis and tonsillitis; staphylococcus disease, including soft-tissue infections, furunculosis, abscesses, cellulitis, carbuncles, and wound infections; pneumococcus pneumonia and acute bronchitis with pneumococci on culture, bronchopneumonia, and otitis media.

In serious staphylococcus infections, erythromycin preparations should be used only in combination therapy with other antimicrobial agents; surgical procedures should be performed when indicated, and large doses of the antimicrobial agents should be employed.

Penicillin is the drug of choice for syphilis and gonorrhea, but Ilosone in multiple 500-mg. doses has been useful in patients with a history of penicillin allergy. Also, other infections due to susceptible bacteria in patients hypersensitive to penicillin or other antibiotics may be considered for treatment with Ilosone.

Contraindications: Known history of sensitivity to this drug; preexisting liver disease or dysfunction.

Adverse Reactions: Hepatic dysfunction with or without clinical jaundice has been reported infrequently. Changes in liver function tests indicative of intrahepatic cholestasis appear to be the result of individual idiosyncrasy. Findings subsided when treatment was discontinued. Occasionally, symptoms simulated extrahepatic obstructive jaundice or the colic of biliary tract disease.

When jaundice appeared to be related to use of the drug, laboratory findings were characterized by increased direct-reacting bilirubin, elevated alkaline phosphatase levels, negative or weakly positive cephalin flocculation and thymol turbidity tests, elevated serum glutamic oxalacetic transaminase levels, peripheral eosinophilia, and normal cholecystograms.

Gastro-intestinal disturbances not associated with hepatic effects and occasional allergic manifestations (urticaria, skin eruptions, and, rarely, anaphylaxis) have been reported. The normal intestinal gram-negative bacterial flora is not appreciably altered by erythromycin drugs.

Administration and Dosage: Ilosone is administered orally.

Infants and children under twenty-five pounds, 5 mg. per pound every six hours; twenty-five to fifty pounds, 125 mg. every six hours. Adults and children over fifty pounds, 250 mg. every six hours.

For severe infections, double the dosage. When larger doses are indicated, consider parenteral erythromycin therapy. In beta-hemolytic streptococcus infections, maintain treatment for ten days to prevent rheumatic fever or glomerulonephritis.

In syphilis, a total of 20 to 30 Gm. is administered in divided doses for ten to fifteen days. Close follow-up is necessary since erythromycin drugs have not had adequate evaluation in all stages of syphilis. Examination of spinal fluid is recommended during follow-up.

In gonorrhea, the dosage is 500 mg. four times a day for four days. Patients with a suspected lesion of syphilis should have a dark-field examination before receiving antibiotics and monthly serologic tests for three months. For detailed information, consult the package literature.

How Supplied: Pulvules® Ilosone, Capsules, N.F., 125 mg.* and 250 mg.*

Ilosone Liquid 125, Oral Suspension, U.S.P., 125 mg.* per 5-cc. teaspoonful.

Ilosone, 125, for Oral Suspension, N.F., 125 mg.* per 5-cc. teaspoonful.

Ilosone Drops, 5 mg.* per drop.

Tablets Ilosone Chewable, N.F., 125 mg.*

---

*Base equivalent. [080967]

References: 1. Griffith, R. S., and Black, H. R.: Am. J. M. Sc., *247*:69, 1964. 2. Griffith, R. S., and Black, H. R.: Antibiotics & Chemother., *12*:398, 1962. 3. Hirsch, H. A., Pryles, C. V., and Finland, M.: Am. J. M. Sc., *239*:198, 1960.

Additional information available to physicians upon request. Eli Lilly and Company, Indianapolis, Indiana 46206.

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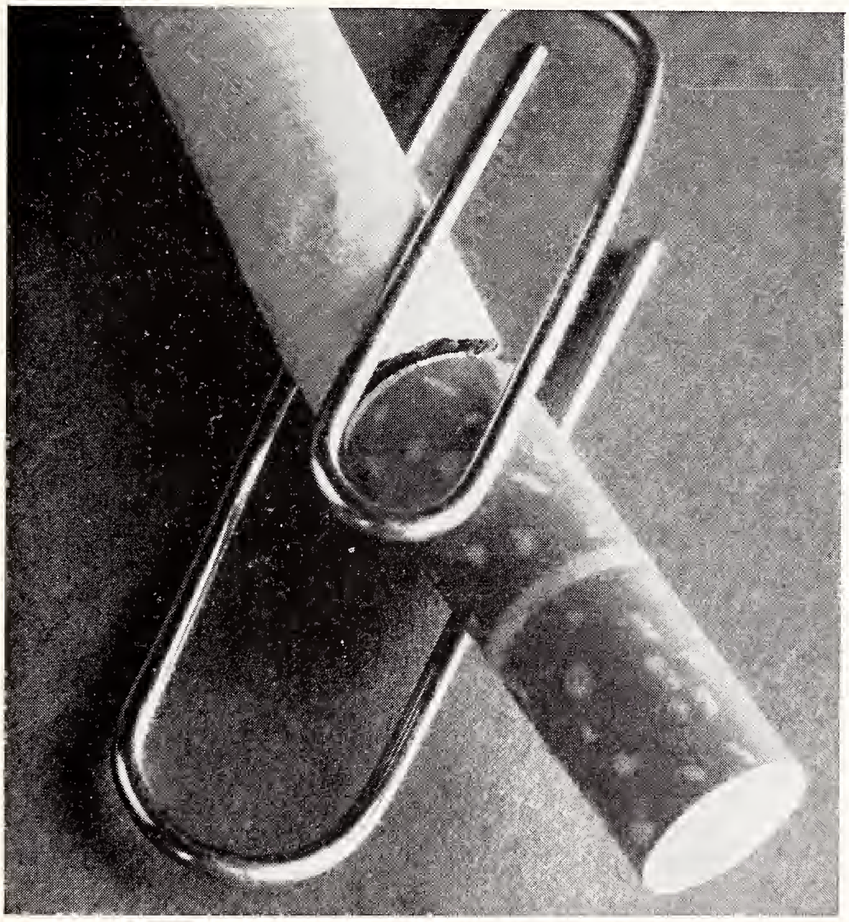

Of course we can't guarantee it'll smoke as smooth as a Tareyton.

New Tareyton 100's with the charcoal filter. © The American Tobacco Company

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BENEVOLENT AND LOAN FUND COMMITTEE

Meeting of the Benevolent and Loan Fund Committee of The Arizona Medical Association, Inc., held Sunday, August 20, 1967, in the Central Office of the Association, Suite 201, Safari Building, 4601 North Scottsdale Road, Scottsdale, Arizona, convened at 10:15 a.m., Daniel T. Cloud, M.D., Chairman, presiding.

ROLL CALL

PRESENT: Drs. Cloud, Daniel T., Chairman; Dudley, Jr., Arthur V., President Elect; DuVal, Merlin K.; Dysterheft, Arnold H., President; Ochsner, Albert J. Staff — Mr. Carpenter, Robert, Executive Secretary

EXCUSED: Drs. Buffmire, Donald K.; Heileman, John P., Secretary; Landeen, Fred H., Treasurer.

MINUTES

Approved minutes of the meeting of the Benevolent and Loan Fund Committee held October 2, 1966, as printed and circulated among the members.

MEDICAL STUDENT LOANS GRANTED

Reaffirmed mail vote approval of the following medical student loans to residents of Arizona between the period October 2, 1966, to date:

Name	Amount
Altfas, Jules R. George Washington University, 7/14/67	$1,500.00
Fisher, Charles E. University of S. California, 2/ 2/67	1,100.00
Gibbs, Stephen D. Creighton University, 7/25/67	1,500.00
Goyette, Richert E. Baylor University, 7/14/67	1,500.00
Hill, McArthur University of Tennessee, 12/27/66	700.00
Mobley, David F. University of Tennessee, 8/11/67	1,500.00
Murhpy, III, James University of Cal., Los Angeles, 10/12/66	900.00
Prebil, Kenneth J. University of Tennessee, 3/10/67	1,500.00
Risser, Christian University of Tennessee, 5/19/67	1,500.00
Severance, James M. University of Colorado, 12/ 2/66	1,000.00
Udall, Jr., John N. Temple University, 10/12/66	1,500.00
Warden, Glenn D. University of Utah, 6/28/67	1,500.00

FINANCIAL REPORT

VNB Trust Account No. 120-03068 reflects a cash balance as of July 31, 1967, of $32,981.27. Outstanding loan balance as of July 31, 1967, of $5,103.63.

VNB Trust Account No. 170-04714 reflects a cash balance as of July 31, 1967, of $11,311.01. On the basis of the VNB conversion factor of 12.5, amount available for loans: $141,387.62. Loans authorized to July 31, 1967: current amount outstandings — $114,436.01; amount authorized but not disbursed: $6,700.00; total commitment: $121,136.01. Maximum available to loan as of July 31, 1967: $20,251.61.

On the basis of prior authorization of the Board of Directors, November 20, 1966, "that the total amount of the then outstanding student loans to which the Association's guarantee would apply, would at no time exceed seventy-five percent (75%) of the then total budget (1967 — $197,658.00), plus an amount as determined by current accounting sufficient to cover the transfer of loans from the old Trust to the new Trust," such maximum authorization, as of 1967, would be $172,576.40. Taking into account the sum of $121,136.01, representing loans authorized to July 31, 1967, a total sum of $51,440.39 represents the maximum authorized to loan as of July 31, 1967. This latter sum is, of course, subject to available funds. It was pointed out that, on appropriate authority, additional sums of $1,000.00 each were transferred from the Scholarship Fund to VNB Trust No. 170-04714, December 8, 1966, and July 10, 1967. For the record, the following loan was transferred from VNB Trust No. 120-03068 to No. 170-04714:

Name	Date	Original Loan Amount of
Rodriguez, Gilbert M.	4/ 1/67	$1,500.00

Funds available for Scholarship Grants, as of July 31, 1967, total $10,106.35. Such authorized grants are limited to $500.00 per student applicant.

Charles A. Frazer, M.D., on January 3, 1967, executed a Payout Note in the total sum of $7,713.60, combining his indebtedness with interest providing for 120 installment payments of $64.28 monthly commencing February 15, 1967. Dr. Frazer has been called to service as a Captain in the Army Medical Corps. Renegotiation is sought.

BENEVOLENT ACCOUNT

For the record, the "Benevolent Account" as of January 1, 1967, reflects a balance on hand of $6,644.05.

MEDICAL STUDENT LOAN CANCELLATION

J. William Fitz, of Tucson, was granted a medical student loan on August 11, 1966, in the sum of $1,200.00. Under date of October 6, 1966, Mr. Fitz was granted a scholarship in the sum of $500.00. At his request, the medical student loan was reduced in like amount to $700.00. The transaction for this loan has not been consummated to August 31, 1967; therefore, for the record, the initial loan of $1,200.00 is reduced to $700.00 and the latter amount cancelled.

VNB TRUST NO. 170-04714

For the record, the interest rate associate with VNB Trust No. 170-04714 was increased from 6% to 6½% per annum, effective October 3, 1966.

Dr. Cloud reported that negotiations have been concluded between this Association, the Valley National Bank and the American Medical Association Education and Research Foundation, realizing the transfer of the Arizona Medical Student Loan Program, including all outstanding indebtedness, to the AMA-ERF. The program providing medical student loans for Arizona residents will continue under agreement between AMA-ERF and the Valley National Bank. This Association will be identified with the continuing program with the right of prior review of rejections should such occur.

This total accomplishment has been realized with the full cooperation of all three parties concerned.

MEDICAL STUDENT LOAN REPAYMENTS

For the record, the following medical student loans have been paid in full with interest from October 2, 1966, to date:

Name	Date	Amount of Original Loan
Anderson, Alfred E.	8/11/64	$1,500.00
Minson, Ronald B.	9/ 1/60	1,500.00
Schooler, Richard A.	7/31/61	1,500.00
Schoor, Jr., Wagner J.	3/ 1/60	1,000.00

MEDICAL STUDENT LOAN APPLICATIONS

It was determined to forward to AMA-ERF for its review and consideration the following medical student loan applications with all supporting data available: (a) Gary D. Barham (Sophomore), University of Louisville—$1,500.00; (b) Kelley Kaesler (Junior), University of Tennessee—$-1,500.00; (c) Robert W. Lawrence (Sophomore), University of New Mexico—$500.00; (d) Kenneth J. Prebil (Sophomore), University of Tennessee—$1,500.-00; (e) Christian F. Risser (Sophomore), University of Tennessee—$1,500.00; (f) M. Angela Skelton (Sophomore), St. Louis University—$1,500.00; (g) Daniel Lee Neel (Freshman), University of Utah—$1,500.00; and (h) John Nicholas Udall, Jr. (Junior), Temple University—$1,500.00.

INTERN-RESIDENT LOAN APPLICATIONS

Harold S. Cypert, M.D., of Phoenix, and Theodore Daehler, M.D., likewise of Phoenix, each currently engaged in a residency training program, previously expressed interest in obtaining a loan. Each was advised that, due to financial limitations, this Association found it necessary to limit medical student loans at that time to the four years of medical school. With the consolidation of the two loan programs now in effect, it was authorized that each of these applicants be so informed, suggesting application direct with AMA-ERF.

SCHOLARSHIP APPLICATIONS FOR REVIEW

Following review of applications filed, the following scholarships ($500.00 each) were awarded: (a) Jane E. Berrier (Scottsdale), graduate of ASU, to attend Washington University; (b) Judy Kathleen Munyon (Phoenix), a graduate of ASU, to attend the University of Arizona; (c) Michael A. Platt (Tucson), graduate of U of A, to attend the University of Arizona; and (d) Lowell W. Rogers (Phoenix), a graduate of the U of A, to attend Johns Hopkins University.

The case of Roy W. Buterbaugh (Tempe), graduate of ASU, who attended the University of Colorado, awarded a scholarship October 2, 1966, was reviewed. He was dropped from the Freshman class because of his failure to meet the academic requirements for the first semester.

Richard F. Martin (Phoenix), graduate of NAU, withdraws his application for a scholarship. While he planned to attend the University of Arizona, he was not accepted. He appears on its alternate list. He plans to continue study at the U of A to obtain his Master's Degree. He hopes to be acceptable in 1968.

Daniel Lee Neel (Ajo), graduate of ASU, to attend the University of Utah, recently submitted his application for a scholarship. It is currently being processed. Following receipt of all information necessary, it was determined to review this application with supporting data through communication and mail vote of each member.

AMA-ERF CONTRIBUTION

It was suggested that at a later date the Association may wish to consider an annual contribution to AMA-ERF.

MEETING ADJOURNED AT 12:30 P.M.

John P. Heileman, M.D., Secretary
By Robert Carpenter
Executive Secretary

MEDICAL ECONOMICS COMMITTEE

Meeting of the Medical Economics Committee of The Arizona Medical Association, Inc., held Sunday, August 27, 1967, in the Central Office of this Association, Suite 201, Safari Building, 4601 North Scottsdale Road, Scottsdale, Arizona, convened at 3:30 p.m., Ian M. Chesser, M.D., Chairman, presiding.

ROLL CALL

PRESENT: Drs. Brown, Harvey G; Chesser, Ian M., Chairman; Dudley, Jr., Arthur V., President-Elect; Drs. Dysterheft, Arnold H., President; Hardenbrook, Richard G.; McDonald, Richard T.; McGregor, Jr., John G.; Ricker, John H. Staff — Messrs. Carpenter, Robert, Executive Secretary; Robinson, Bruce E., Assistant Executive Secretary. **Guests** — Drs. Crouch, Boyden L.; Price, Ernest H.; McCarver, Robert R.; Nau, Jr., Carl L.; Esquivel, Raymundo J.; Sergent, Warren F.

EXCUSED: Drs. Carreras, Miguel A.; Heileman, John P., Secretary; Hoffman, George L; Spencer, Steven S.

MINUTES

Minutes of the meeting of the Medical Economics Committee held February 24, 1967, approved.

Attention was directed to the fact that Dr. Richard G. Hardenbrook, present at the meeting of the Medical Economics Committee held December 3, 1966, was inadvertently excluded from the Roll Call. It was directed that he be recorded as present at that meeting.

INDUSTRIAL COMMISSION OF ARIZONA

Dr. Chesser briefed the assembly as to the status of negotiations with the Industrial Commission of Arizona relating to fees. With the adoption of Resolution No. 11 by the House of Delegates of this Association in 1965, this organization or any of its committees or officers were prevented from negotiating with municipal, federal or state agencies on any basis other than the usual, customary and reasonable fee concept.

It then became necessary to first negotiate with the Federal Government, through its Office of Civilian Health and Military Personnel of the United States referred to as OCHAMPUS (formerly Office of Dependents' Medical Care), now covering the retired military personnel and their dependents as well as dependents of active military personnel, on the basis of the

UCR concept. This was accomplished with some variations inasmuch as the Federal Government required at that time a ceiling schedule which was used for screening purposes. Physicians now bill on the basis of their UCR charges, and claims are screened in Denver, Colorado, or by the Professional Committee of Blue Shield, the latter being the Fiscal Administrator for the Government.

The House of Delegates in 1966, realizing that the Industrial Commission Fee Schedule then in effect would be open for negotiation on the first of July of 1967, recommended to this Committee, through the Board of Directors, that it negotiate likewise on the basis of the UCR concept. Realizing that the Industrial Commission was not capable of negotiating on this basis (the law specifying a fee schedule), nevertheless, this organization, by letter, communicated with the ICA, requesting the opening of negotiations to realize the directive of its House. Commissioner Frank G. Murphy, Chairman of ICA, responded, citing the statutory fee schedule requirement. The then existing fee schedule followed the 1964 California Relative Value Study, applying a factor of 4.5. A factor of 6 is about as close as possible to achieve the UCR concept. ICA, keenly aware that the adoption of a conversion factor of 6 would represent a 33⅓% increase in fees over a three-year period, requested the Association to submit statistical data and other relevant information in support of such increase. It is not intended to negotiate on a three-year basis. Effort was pursued to acquire the necessary statistical data, and a number of meetings have been held during which the matter of hospital-based radiologists was also discussed, pointing out the inequities in payment or non-payment of radiologists for fees covering inpatient industrial patients. This latter problem has yet to be resolved. The position of the anesthesiologists was then discussed and, of course, the Association is aware of its recent action serving notice on ICA that only emergency cases will be considered following a given date. ICA has had other internal difficulties, and further meetings have been deferred pending the outcome of deliberations of the Medical Economics Committee in meeting today. With regard to the investigation of the ICA currently being pursued, this Association has offered assistance. In correspondence with the Medical Director of ICA, he advised that the investigation is not complete and may not be for some time. Further, until some report is made by the Investigating Committee to the Governor, and made a matter of public record, he felt that it might be inappropriate for the medical profession to pursue the matter of a fee schedule at the present time. This does not imply, however, that the Commission does not or will not be amenable to the suggestion of a new fee schedule on the basis of the UCR fee concept. It appears that within the past two weeks the Medical Director now feels that negotiations should be pursued.

Dr. Dysterheft, having recently returned from a meeting in Chicago, Illinois, stated that there is ample evidence throughout the country that our course is right; that unilateral action is unwise; and that we should pursue negotiations on the Association level.

Considerable discussion ensued. It was pointed out that the medical profession is not asking for an increase in fees. It is insisting that it be paid the usual, customary and reasonable fee charged its patients and those under other similar programs. A doctor should not be required to justify to the Commission his charges or to anyone else excepting his patient and his own conscience. In further discussing the UCR concept, it was pointed out that a factor of 6 across the board may not reflect the usual, customary and reasonable fee of all sections of medicine and it may well be to achieve the UCR concept it might require the establishment of a separate factor for each section.

It was concluded that negotiations with the Industrial Commission of Arizona be continued to the end that the UCR fee concept be adhered to, establishing an appropriate factor or sectional factors as may be indicated, said negotiations to be actively pursued to realize a satisfactory settlement at the earliest possible time.

MEETING ADJOURNED AT 5:15 P.M.

John P. Heileman, M.D.
Secretary
By Robert Carpenter
Executive Secretary

SCIENTIFIC ASSEMBLY COMMITTEE

Meeting of the Scientific Assembly Committee of The Arizona Medical Association, Inc., held Saturday, September 9, 1967, in the Lanai Room of the Safari Hotel, 4611 North Scottsdale Road, Scottsdale, Arizona, convened for dinner at 6:05 P.M., Reginald J. M. Zeluff, M.D., Chairman, presiding.

ROLL CALL

PRESENT: Drs. Currin, John F.; Dudley, Jr., Arthur V., President-Elect; Dysterheft, Arnold H., President; Gordon, Allan L.; Gregory, T. Richard; Grossman, Raymond; Heileman, John P., Secretary; Kent, Jr., George B.; Nelson, Arthur R.; Nichols, Paul J., Assistant Chairman; Phillips, Melvin W.; Zeluff, R. J. M., Chairman. Guests—Drs. Manning, Phil R., Associate Dean of Postgraduate Medical Education, University of Southern California School of Medicine, Los Angeles; Landeen, Fred H., Treasurer, ArMA; Mr. Miller, Raymond H., Field Service Representative, AMA. Staff—Messrs. Boykin, Paul R., Convention Manager; Carpenter, Robert, Executive Secretary; Robinson, Bruce E., Assistant Executive Secretary.

EXCUSED: Drs. Ben-Asher, M. David; Bregman, Edward H.; Bright, Daniel; Carlson, John S.; Flynn, Richard O., Vice President; McDonald, Richard T.; Martin, Richard J.; Moody, Deward G.; Sattenspiel, Edward; Saylor, Blair W.

MINUTES

The minutes of the meeting of the Scientific Assembly Committee held June 17, 1967, were approved as printed and circulated among the members by motion regularly made and carried.

BOARD OF DIRECTORS ACTIONS — July 9, 1967

Review of Annual Meeting Facilities for 1969 and 1970

The Committee received reports from the Chairman, Dr. Zeluff, and the staff relative to meeting facilities in the Phoenix area for future meetings of ArMA. These reports concerned the facilities of the Ramada Inn, the Westward Ho Hotel, the TowneHouse, the Safari Hotel, the Camelback Inn, the Biltmore Hotel and the Mountain Shadows Resort.

The Committee, by motion regularly made and carried, recommended that the 1969 Annual Meeting of the Arizona Medical Association be held in the Safari Hotel, Scottsdale.

Policy Change—Specialty Societies Use of Guest Speakers

The Committee expressed appreciation for the action of the Board of Directors in permitting specialty societies use of guest orators without fee wherein all participants are registered for the general meeting.

ArMPAC Dinner—Other Meeting Restrictions

The Committee, by motion regularly made and carried, adopted the Board's directive that Thursday evening be limited to the ArMPAC dinner affair.

Schedule of Social Affairs

The Committee reviewed at length the suggestions of the Board of Directors relative to scheduling of social affairs and determined to recommend the following:

Wednesday evening, April 24, 1968—Steak Fry and Reception
Thursday evening, April 25, 1968—ArMPAC Dinner
Friday evening, April 26, 1968—President's Reception and Banquet

Following further lengthy discussion and by motion regularly made and carried, the Committee recommended that the registration fee for the 1968 Annual Meeting be placed at $15.00, to include two tickets to the Steak Fry and one breakfast panel discussion; and that the President's Banquet receive special attention as to publicity, the fee for attendance to be determined later but in the area of $20.00 per couple as may cover the cost of food and appropriate entertainment.

Uniformed Guard

The Committee, by motion regularly made and carried, recommends that the Board of Directors reconsider its actions of July 9, 1967, permitting a uniformed guard assuring that all in attendance at the 1968 Annual Meeting are duly registered and authorized to attend.

Press Relations—Publicity

Having information that the Public Relations Committee of ArMA had conducted a poll of its members, voting nine to five in favor of employment of a public relations firm to conduct the publicity and press relations for the 1968 Annual Meeting, on motion regularly made and carried the Committee voted six to three in favor of supporting the recommendations of the Public Relations Committee.

SCIENTIFIC PROGRAM

The Chairman introduced Phil R. Manning, M.D., Associate Dean of Postgraduate Medical Education, University of Southern California School of Medicine, Los Angeles, who, together with the Committee, held lengthy discussion in the area of the Scientific Program, many valid and worthwhile suggestions being obtained for development.

The Committee directed its Chairman, Dr. Zeluff, in cooperation with Dr. Manning to prepare their recommendations for subjects of presentation and faculty for future review and approval.

HOSTING OF GUEST SPEAKERS

The Committee determined to await finalization of the program to direct assignments for hosting guest speakers but did reiterate its desire to use, where possible, the Newcomers for this purpose.

SPORTS PROGRAMS

The report of the survey of the membership regarding sports activities was reviewed indicating the following:

Doctors Preference	Activity	Wives Preference
9	Bowling	10
8	Bridge	16
29	Golf	13
18	Tennis	11

By motion regularly made and carried, the Committee recommended that the Woman's Auxiliary be requested to arrange for bridge games for those desiring to play, without financial support; that Dr. Dale H. Stannard, Chairman, Golf Committee, arrange for the Annual Golf Tournament, with $100.00 appropriated for prizes; and that Dr. and Mrs. Paul J. (Jim) Nichols arrange for tennis, with $25.00 appropriated for prizes.

ANNUAL MEETING PROGRAM

Considerable discussion was held on the Scientific Program for the Annual Meeting, the schedule to be determined upon by the Chairman and Dr. Manning.

FINANCES

Contributions for Scientific Program

Pfizer Laboratories, Inc.

Dr. Zeluff reported that Pfizer Laboratories have offered to financially support the Annual Meeting by underwriting the expenses of a guest orator, which was heartily endorsed by the Committee.

Physicians and Surgeons Underwriters

The Committee was informed that the Physicians and Surgeons Underwriters Corporation of Minneapolis had offered to underwrite the expenses of a selected malpractice panel participant, should the same be included in the program.

It was determined to respond with thanks; however, a malpractice panel is not currently being considered for the 1968 Annual Meeting.

Mead Johnson

A communication from H. Patterson Mack, M.D., Mead Johnson, offering to defray expenses and honorarium for a guest speaker in the area of "Cancer Chemotherapy" from a list provided by the Company, was reviewed.

The Committee directed response with thanks and request for the list of speakers, to determine whether or not the program as ultimately designed will accommodate such speaker.

Guest Speaker Arrangements

At the request of the Board of Directors, the Committee considered at length ArMA's policy of travel, expenses and honorariums for its guest speakers. Dr. Manning also commented upon the practices of the University of Southern California in this area of agreement indicating as a preference for each guest speaker, one round trip jet coach fare or seven (7) cents per mile of auto travel, one hundred dollars ($100.00) per day of scientific presentation and hotel and meal reimbursement with exacting limitations for each, any expenses for entertainment or wife or family participation to be borne by the guest speaker. It was further indicated that, on completion of the program and guest speaker assignments, ArMA could anticipate an exact statement of costs in advance.

By motion regularly made and carried, the Committee recommends adoption of the University of Southern California plan as outlined above for reimbursement of its guest speakers.

NEWCOMERS PROGRAM

By motion regularly made and carried, the Committee recommends continuation of the Newcomers Program, wherein members of ArMA for less than two years receive special recognition on registration badges and one ticket to the specialty society luncheon of their choice is paid by ArMA.

COMMERCIAL EXHIBIT AWARDS PROGRAM

The Committee, by motion regularly made and carried, recommended that prizes for the commercial exhibit attendance awards program be provided by the Association in the amount of $300.00.

MEDICARE FISCAL AGENT PARTICIPATION

The Committee received a communication from Aetna Life Insurance Company requesting time during the 1968 Annual Meeting to present a report of its fiscal administration of the Medicare program and the privilege of hosting a hospitality room.

By motion regularly made and carried, the Committee recommends that Aetna present its Medicare fiscal report during the first meeting of the House of Delegates on Tuesday, April 23, 1968, and that they be permitted to host a hospitality room only in the event it is manned at all times by representatives well versed in Part B Medicare matters.

REGISTRATION BADGE CASES

Following inspection, the Committee approved the Identa-kit badge case on recommendation of Dr. Richard Flynn for the 1968 Annual Meeting.

COMMUNICATIONS

Woman's Auxiliary

The Committee expressed appreciation for the interest of the Woman's Auxiliary in the affairs of the Annual Meeting and assures them of all possible cooperation and recognition.

Diabetes Subcommittee

The Committee was informed that Marguerite S. Williams, M.D., Chairman, Subcommittee on Diabetes, wished to obtain space for an exhibit during the 1968 Annual Meeting.

The Committee directed that Dr. Williams be requested to submit a complete description and operational data for the proposed exhibit for review and consideration.

MEETING ADJOUNRED AT 10:10 P.M.

John P. Heileman, M.D.
Secretary

BOARD OF DIRECTORS

Meeting of the Board of Directors of The Arizona Medical Association, Inc., held Sunday, September 10, 1967, in the Convention Center of the Safari Hotel, Scottsdale, Arizona, convened at 10:05 a.m., Richard O. Flynn, M.D., Vice President and Chairman, presiding.

ROLL CALL

PRESENT: Drs. Beckwith, Harry S.; Brooks, Jack E.; Derickson, Philip G.; Dew, Philip E.; Dexter, Richard L.; Dudley, Jr., Arthur V., President-Elect; Dysterheft, Arnold H., President; Flynn, Richard O., Vice President and Chairman; Grobe, James L.; Heileman, John P., Secretary; Henderson, Charles E.; Jarrett, Paul B.; Landeen, Fred H., Treasurer; Melick, Dermont W.; Moody, Deward G.; Price, Robert A.; Rhu, Jr., Hermann S.; Sattenspiel, Edward; Schoen, Roland F.; Standifer, John J.; Steen, William B. Counsel—Mr. Jacobson, Edward. Staff—Messrs. Carpenter, Robert, Executive Secretary, ArMA; Robinson, Bruce E., Assistant Executive Secretary, ArMA; Boykin, Paul R., Executive Secretary, BOMEX. Guests—Drs. Ash, John A., President, Maricopa County Medical Society; Chesser, Ian M., Chairman, Medical Economics Committee, ArMA; Dregseth, Kenneth A., President, Cochise County Medical Society; Kahle, John F., Chairman, ArMPAC Board of Directors; Mr. Miller, Raymond H., AMA Field Representative.

EXCUSED: Drs. Cloud, Daniel T.; Finke, Howard W.; Young, Woodson C.

WELCOME

The Chairman, in behalf of the Board of Directors, extended a cordial welcome to and introduced John A. Ash, M.D., President, Maricopa County Medical Society; Kenneth A. Dregseth, M.D., President, Cochise County Medical Society; Ian M. Chesser, M.D., Chairman, Medical Economics Committee; John F. Kahle, M.D., Chairman, ArMPAC Board of Directors; and Mr. Raymond H. Miller, AMA Field Representative.

MINUTES

Approved minutes of the meeting of the Board of Directors held July 9, 1967.

ArMPAC BOARD OF DIRECTORS

DR. KAHLE: At the last meeting of this Board, there was an additional appropriation of $500 authorized for educational purposes. We received the check. Actually, I have no good tidings for the Board whatsoever. Our membership this year to date is 142. It is disheartening. This is the "off year." We should be increasing our membership and build up the treasury. Our goal is 350 minimal. Obviously, the summer vacation period has retarded progress in our objectivity. We must increase the membership. With the successful year of 1966 behind us, it was anticipated there would be no problem in increasing the membership. No little effort has been expended to achieve this objective. At the last annual meeting of the AMA, full support was given the PAC movement. Inclusion of a voluntary ArMPAC contribution along with the regular annual component society dues billing is the "key" to the buildup of membership participation. Many states have been doing this, and PAC membership, as the result thereof, has increased as much as 80%. It is clearly pointed out that such PAC contribution is non-tax deductible. The funds thus collected must be kept separate and turned over to ArMPAC, who has the responsibility of accounting for its disbursements. Such procedure will require the approval of the respective county societies. Maricopa Society, in the past, has included in their annual dues billing a separate statement providing for the ArMPAC contribution.

In hand is a written opinion by Counsel, who briefly reviewed its content. It has been the opinion that dues and contributions to ArMPAC should be paid directly to ArMPAC by the individuals concerned rather than being funneled through the Arizona Medical Association to ArMPAC. Arizona statutes provide that it is unlawful for a corporation organized or doing business in the State to make any contribution of money or anything of value for the purpose of influencing an election. While Counsel continues to be of the opinion that separate billing is legally preferable, it is cognizant of the increased ArMPAC revenue anticipated through joint billing. If the proposed procedure is adopted, ArMPAC dues should be set forth separately on the dues statement. It is understood the activities of ArMPAC preclude the deductibility of the dues paid to it. Perhaps this should be indicated on the statement. It would be wise for ArMA to make a charge to ArMPAC for a proportionate part of the costs of collecting dues, including costs of items such as stamps, envelopes, and other billing expenses.

On motion regularly made and unanimously carried, recommendation is to be made to the component county medical societies that the procedure of joint billing, including the annual dues of county, state and national, together with a non-deductible, voluntary ArMPAC contribution, so designated, to be followed; and that a copy of counsel opinion dated August 28, 1967, be included with the notice forwarded to the component societies annually by the Association setting forth the dues of both state and national and date due.

MEDICAL ECONOMICS COMMITTEE

Ian M. Chesser, M.D., Chairman of the Medical Economics Committee, reported in detail the results of negotiations with the Industrial Commission of Arizona in an endeavor to establish the usual, customary and reasonable fee concept. The Medical Economics Committee met August 27, 1967, and at that time it was determined, inasmuch as the statute requires a fee schedule, the current California Relative Value Study be applicable with a factor of 6 for surgery and 7 for medicine. It was indicated that the factor of 6 would be more or less acceptable to anesthesia and surgery but not for medical. The recent position of the Anesthesiologists was reviewed. Discussion with ICA concerning the radiological contract was carried out, and the decision placed the burden on the hospitals with or without Hospital Association action. ICA has indicated that it would negotiate only with the Arizona Medical Association through its Medical Economics Committee and would not negotiate with any other group within the Association. It determined that the California Relative Value Study with minor changes will be used as the basis for negotiation. The contract will cover a period of one year with annual re-negotiation, if necessary. Rules will be changed on negotiation with the Medical Economics Committee based on complaints received and obvious inequities. It is the demand of this Association that the appropriate factor of 6 be applied to the surgical section of the CRVS and that a factor of 7 be applied to the medical section, which will correspond more closely with the UCR fee concept (this in comparison to the factor of 4.5 in effect during the past three years). ICA has contended that the application of a factor of 6 would increase its costs 33⅓%. Considerable statistics have been developed, and Dr. Chesser proceeded to summarize them on the blackboard for the enlightenment of the assembly. Fees paid to chiropractors have increased in the past year by 50%. The problem ICA is faced with involving increased costs is not due to medical services, but is in actuality due to costs involving compensation, occupational disease and rehabilitation. Over a three-year period such costs have increased over $4,000,000 not involving payments to physicians, said physicians in fact receiving a sum of $3,000 more in 1966 over 1965. On the basis of total premium dollar paid, medical costs will represent only an increase of 2.5%.

It is recommended by Dr. Chesser that the previously recited just demands of ArMA be made at this time to the Industrial Commission; that simultaneously a press conference be called, with knowledgeable members of the community present, to inform the press what is actually happening and what the percentages actually mean before ICA releases such figures; and that ArMA offer ICA and the people of Arizona its full cooperation in properly and effectively governing its membership in the application of the new fee schedule.

On motion regularly made and unanimously carried, it was determined that the presentation by Dr. Chesser relating to the existing problem be accepted in its entirety; that the study be reproduced in writing by Dr. Chesser; that each member of this Association receive a copy in order that he may be fully aware of the situation; and that Dr. Chesser be authorized to pursue the objective of the whole program with dispatch.

Voluntary Health Agencies

Dr. Melick called attention to the importance of the activation of the Subcommittee on Voluntary Health

Agencies, referred to the Medical Economics Committee, in the light of the forthcoming meeting in Scottsdale scheduled to be held February next. Dr. Chesser agreed to pursue this project.

ArMA HOUSE OF DELEGATES

Medicare Intermediary

In response to action of the House of Delegates, April 29, 1967, in the adoption of Resolution No. 10 of 1966, recommending to the United States Department of Health, Education and Welfare that, as soon as may be appropriate, Arizona Blue Shield Medical Service be designated as the fiscal intermediary for Medicare for the State of Arizona under Title XVIII, Part B, Public Law 89-97, Thomas M. Tierney, Director of the Bureau of Health Insurance of the Department of HEW, by letter dated August 1, 1967, advises that, "We have no basis to consider terminating our contract with the Aetna Life Insurance Company." He further states: "We are, of course, most anxious that the Medicare Program be accepted by the medical profession, and the expressed concerns and desires of physicians and surgeons are considered in the formulation of our policies and procedures for administration of the program. It is within this framework that we reviewed the resolution of the Arizona Medical Association, Incorporated. While we consider this to be a significant pronouncement, we do not belive that it overrides other important considerations, foremost of which are our contractual commitments to the present carrier."

On motion regularly made and unanimously carried, the Board authorized further communication with the Department of Health, Education and Welfare to give favorable consideration to its request when considering renewal of the contract in 1968; and that the Congressional Delegation of Arizona be communicated with, urging their cooperation and influence to achieve this objective.

Medical Foundation

The House of Delegates of this Association, in meeting held April 29, 1967, adopted a Substitute Resolution for Resolutions numbered 20 and 21, expressing favor in the establishment by its members of non-profit foundations stipulating that the Association may provide counsel to those of its members requesting help in the establishment of such non-profit foundations.

Kent E. Durfee, M.D. (Phoenix), in accordance with this resolution, seeks counsel and help of the Association in establishing such a foundation to receive gifts and donations eventually to establish a treatment center for children in need of psychiatric therapy who cannot afford to pay.

It was determined that this Association, at this time, cannot afford to provide legal counsel to its members seeking help in the establishment of non-profit foundations. This project might well be referred to the proposed Subcommittee on Voluntary Health Agencies under the Medical Economics Committee, when activated, for its review. The Board directed that Dr. Durfee be so informed.

BOARD OF DIRECTORS

ArMA-BOMEX Staff Assistance

Counsel reported that he had inspected the Opinion of the Attorney General (Opinion 67-12-L) relating to part-time employment of Association personnel by the Board of Medical Examiners and part-time employment of Board personnel by the Association. The Board has the right to hire part-time personnel, so long as the employee's other job neither conflicts with nor is incompatible with his state job. And, similarly, a state employee may take private part-time employment provided the same standards are met. The real question at issue is whether such employment is incompatible with or constitutes a conflict of interest with the activities of either man for the Board of Medical Examiners. In summary: (1) the program of loaned executives is not itself prohibited by statute or case law; (2) an early administrative recommendation did suggest complete separation; (3) loaned executives are prohibited, however, it the loaned executive is making decisions in the private organization which conflicts with his activities with the public organization or if his activities with the private organization are otherwise incompatible with his public duties—this is factual determination best made by those closest to the details of the matter; and (4) the books of account should be kept so as to accurately charge the State Board only a fair share of the cost of the services rendered to it.

CENTRAL OFFICE ADVISORY COMMITTEE

Financial Report

Dr. Landeen reviewed the financial report covering the first eight months of this year to and including August 31, 1967, reciting total "REVENUES" received amounting to $186,921.22 ($197,658.00 budgeted) and "EXPENDITURES" of $133,858.81 ($205,788.28 budgeted, as amended).

To meet existing deficits, the following additional appropriations were authorized:

511	Dues and Contributions	$ 600.00
521	Audit	30.00
500 a	Annual Meeting	3,241.44
500 1	Medical Economics	100.00

Report of the Treasurer accepted.

Blue Shield Corporate Body

Approved the recommendation that the Blue Shield Corporate Body meeting in annual meeting concurrently with the annual meeting of this Association be asked to contribute a sum of $4,000.00 to be applied toward the costs of conduct of the Blue Shield annual meeting.

Designated Meeting Expense

Established a policy with regard to payment of expenses of Delegates, Alternate Delegates and Officers authorized to represent this Association on official business at designated meetings and in attendance, to comprise first-class, round-trip airplane fare and a per diem of $40, subject to adjustment if and when indicated.

Hospitality Room

It was determined not to maintain and operate a Hospitality Room during the AMA Annual and Clinical meetings, excepting when and at such time a member of the Arizona Delegation is running for office.

Headquarters Building Program

Authorized the Central Office Advisory Committee to explore the possibilities of constructing a Central Office Headquarters Building and report back to this Board.

Membership Classifications

MARICOPA—J. Epstein, M.D. (Phoenix)—Active, granted Associate (dues exempt), account military service, effective 1/1/68.

Warren Gorman, M.D. (Scottsdale)—Granted Service (¼ dues), account employment at Arizona State Hospital and Barrow Neurological Institute (research), effective 2/2/66.

R. Donald Hagerman, M.D. (Phoenix)—Active, granted Associate (dues exempt), account residency training, effective 1/1/68.

R. Michael O'Harra, M.D. (Phoenix)—Active, granted Associate (dues exempt), account military service, effective 1/1/68.

Cecil C. Vaughn, M.D. (Phoenix)—Active, granted Associate (dues exempt), account residency training, effective 1/1/68.

John M. Vivian, M.D. (Phoenix)—Active, granted Associate (dues exempt), account residency training, effective 1/1/68.

Robert Henry Nuss, M.D. (Phoenix) — Granted Service (¼ dues), account employment at Arizona State Hospital, effective 6/20/67.

Thomas F. Moore, M.D. (Phoenix) is recommended for Associate membership (dues exempt), account residency training, effective 6/19/67. This member is listed as an Active member of Gila County Medical Society, dues paid 1961 through 1965, suspended account dues delinquency 1/1/67. It was determined to communicate further with Maricopa County Medical Society for clarification.

GOVERNMENTAL SERVICES COMMITTEE

Comprehensive Health Planning

Appointed Stanford F. Farnsworth, M.D., (Phoenix), member of the Governmental Services Committee to chair the Subcommittee on Comprehensive Health Planning. Dr. Farnsworth accepted the appointment for the term 1967-69.

Heart, Cancer and Stroke

Appointed Dermont W. Melick, M.D. (Phoenix), a member of the Governmental Services Committee for the term 1967-70, to chair the Subcommittee on Regional Medical Programs. Dr. Melick accepted the appointment.

Dr. Melick was recently appointed a Professor of Surgery at the University of Arizona College of Medicine to coordinate the activities under P.L. 89-239, Heart, Cancer and Stroke. He reviewed the circumstances surrounding this appointment and the history to date of this program. A grant of $225,000 for planning has been obtained. It is to be borne in mind that this is an educational program and does not involve the care of patients.

On motion regularly made and unanimously carried, the Association determined to support the heart, cancer and stroke program.

On motion regularly made aand unanimously carried, the Board authorized a letter to be forwarded to Merlin K. DuVal, M.D., Dean of the College of Medicine of the University of Arizona, expressing the pleasure and satisfaction of this Association in his appointment of Dr. Dermont W. Melick as a Professor of Surgery to coordinate the program of Heart, Cancer and Stroke, P.L. 89-239, it being its feeling that the private practice of medicine will be well served through this eminently qualified Officer of the Association.

Medicare

The Governmental Services Committee previously recommended to the Board of Directors, urging its approval: (1) that, in cases of patients whose medical care is the responsibility of the county, state or city government and who are also eligible for Medicare benefits, the accepting of assignments by the physician for 80% of his fees be approved, and that the county, state or city government be responsible for the balance of the fee (deductibles and co-insurance); and (2) that the Arizona Medical Association establish a statewide, non-profit foundation with autonomous county chapters which would receive Medicare fees for the indigent Medicare patients, and fees paid for services on Utilization Review Committees, and from other sources, the foundation to carry out the collection aspects of the program. Each doctor would choose whether or not the funds collected would stay in the foundation to support its programs or were to be turned over to him (House Substitute Resolution Nos. 20 and 21, adopted April 29, 1967). No action was taken. Again, the Committee refers back to the Board for reconsideration these two recommendations, and if the rationale for not acting at this time is primarily limited to fiscal considerations, that this be so stated and the opportunity for financing be done by private sources in the community of physicians with or without reimbursement from funds obtained in the future.

On motion regularly made and unanimously carried, the Governmental Services Committee is authorized to communicate with the component county medical societies, informing them that the establishment of non-profit foundations is indeed ethical, but the Association will be unable to provide legal assistance.

SCIENTIFIC ASSEMBLY COMMITTEE

Annual Meeting Program

Dr. Dysterheft reported that the Scientific Assembly Committee met Saturday evening last and seeks endorsement of certain items by this Board. Reviewing in detail the revised format of the meeting, taking into account actions of this Board at its last meeting, the Steak Fry will be held Wednesday evening, April 24, 1968; the ArMPAC dinner to be held Thursday evening, April 25, 1968; and President's Reception and Banquet to be held Friday evening, April 26, 1968. It was recommended that the registration fee be established at $15 to include two tickets to the Steak Fry and one ticket to a breakfast; and that a fee of $20 be charged for two tickets to the President's Reception and Banquet which would include top entertainment. Considerable discussion ensued.

On motion regularly made and unanimously carried, the Board directs that the Scientific Assembly Committee be informed that it recommends a continuation of the "package deal" to include the President's Reception and Banquet (in establishing an appropriate registration fee).

On motion regularly made and unanimously carried, the Board expressed favor in hiring a Uniformed Guard to assure registration of all participants.

It was determined that all participants in the 1968 Anual Meeting shall register and that the component county medical societies be informed well in advance of elections that the Delegates and/or Alternate Delegates will be required to register prior to their being seated. Those who do not choose to so register should be encouraged not to accept the office.

On motion regularly made and unanimously carried, that there be hired a Public Relations expert to handle publicity before and during the annual meeting at an estimated cost of $1,500, the proposal submitted by John S. Turner and Associates, was so directed by the Board.

On motion regularly made and unanimously carried, the Board approved: (1) that the Aetna Life Insurance Company, Medicare Fiscal Intermediary, be granted permission to operate a hospitality room during the annual meeting at the Safari Hotel with the provision that it be manned at all times by representatives of the Company; (2) that $300 be allocated within the budget for the purchase of exhibit attendance prize awards; and (3) that the 1969 Annual Meeting of this Association be held at the Safari Hotel in Scottsdale.

COMMUNICATIONS

Congress on Socio-Economics

Bruce E. Robinson, Assistant Executive Secretary, is authorized to attend the 2nd National Congress on Socio-Economics of Health Care sponsored by AMA to be held at the Palmer House, Chicago, Illinois, March 22 and 23, 1968.

Congressman Steiger

Congressman Sam Steiger reviews current legislation before the Congress of importance to Medicine and medical care, seeking comment and the privilege of consulting in the future on matters pertaining to the practice of Medicine. **RECEIVED.**

Cochise County Hospital

Guy B. Atonna, M.D. (Douglas) seeks the support of this Association in the endeavor to retain R. G. Willy, M.D., Radiologist, serving the Cochise County Hospital, in the interests of the health and welfare of the population of the area. It was reported that the Board of Medical Examiners have been in contact with Dr. Willy, the problem being one involving licensure. He has had two temporary licenses of six-months' duration each, and the law does not provide for further renewal. It may be possible for him to obtain a limited license. RECEIVED.

OTHER BUSINESS

By-Laws Amendments

Dr. Charles E. Henderson, Chairman of the Articles of Incorporation and By-Laws Committee, reviewed the recommendations of that Committee in meeting held July 29, 1967, recommending certain amendments to the Association By-Laws.

Chapter IX—Dues and Assesments, Section 1. (b), amended to include: MEMBERS SUSPENDED FOR FAILURE TO PAY THE ANNUAL DUES AND ASSESSMENTS CANNOT BE REINSTATED UNTIL SUCH INDEBTEDNESS HAS BEEN DISCHARGED, SUCH INDEBTEDNESS TO APPLY ONLY TO THE ONE YEAR OF DELINQUENCY, BUT THEN ONLY AS A NEW MEMBER ON ELECTION AND ACCEPTANCE BY THE COUNTY MEDICAL SOCIETY.

Chapter IX—Dues and Assessments, Section 5., delete: **Exemption from payment of dues and special assessments shall become effective on January first of the year following the granting of such exemption.**

Chapter IX—Dues and Assessments, Section 6., provides for refunds: ANNUAL DUES MAY BE REFUNDED TO AN ACTIVE MEMBER OR THE FAMILY OF A DECEASED ACTIVE MEMBER, ON REQUEST THERFOR, WITH THE APPROVAL OF BOTH THE COUNTY MEDICAL SOCIETY AND THE BOARD OF DIRECTORS, PROVIDED SAID DUES WERE PAID BETWEEN JANUARY FIRST AND PRIOR TO THE ESTABLISHED DUES DELINQUENCY DATE OF THE YEAR DUE, IN INSTANCES WITHIN SAID PERIOD OF (a) DEATH OF AN ACTIVE MEMBER OR (b) HAVING ENTERED TEMPORARILY EITHER THE ARMED FORCES OR AN APPROVED RESIDENCY OR OTHER POSTGRADUATE TRAINING PROGRAM. THOSE ACTIVE MEMBERS HAVING PAID THEIR ANNUAL DUES, ENTERING TEMPORARILY EITHER THE ARMED FORCES OR AN APPROVED RESIDENCY OR OTHER POSTGRADUATE TAINING PROGRAM AFTE THE ESTABLISHED DUES DELINQUENCY DATE, ON REQUEST THEREFOR, WITH THE APPROVAL OF BOTH THE COUNTY MEDICAL SOCIETY AND THE BOARD OF DIRECTORS, MAY HAVE ONE-HALF SUCH ANNUAL DUES REFUNDED.

Suggestion was offered that, possibly, the phrase "OR OTHER ACCEPTABLE REASONS" be added to the above Section 6.

Chapter VII—Standing and Special Committees, Section 4. (a), amended to include an additional paragraph: THE COMMITTEE FURTHER SHALL HAVE THE POWER TO MAKE DIRECT SCHOLARSHIP GRANTS TO WORTHY MEDICAL SCHOOL APPLICANTS FROM FUNDS DERIVED FROM INTEREST THAT HAS ACCRUED ON GENERAL FUNDS OF THE ASSOCIATION ON DEPOSIT, SUBJECT TO APPROVAL OF THE BOARD OF DIRECTORS.

This proposed amendment to Section 4. of Chapter VII, recited above, referred back to the Articles of

Incorporation and By-Laws Committee for further consideration, clarification and comment with regard to the phrase: "SUBJECT TO APPROVAL OF THE BOARD OF DIRECTORS." It is not desirable that each scholarship grant be approved by the Board, which is not the intention. It is desirable that the Board retain the authority to determine whether scholarship grants shall continue or be discontinued at its pleasure.

Chapter VII—Standing and Special Committees, Section 4. (b) [**Grievance**] to provide for an EXECUTIVE COMMITTEE:—THIS COMMITTEE SHALL CONSIST OF THE EXECUTIVE OFFICERS OF THE ASSOCIATION: THE PRESIDENT, THE PRESIDENT-ELECT, THE VICE PRESIDENT, THE SECRETARY, AND THE TREASURER. EACH SHALL SERVE IN THIS CAPACITY FOR THE TERM OF HIS OFFICE. THE COMMITTEE SHALL MEET AS FREQUENTLY AS IS DEEMED NECESSARY, PARTICULARLY BEFORE EACH BOARD OF DIRECTORS MEETING; IT SHALL REVIEW ROUTINE MATTERS AND CORRESPONDENCE TO BE PRESENTED TO AND SUMMARIZED FOR BOARD ACTION; DEVELOP POLICY POSITIONS AND ALTERNATIVES FOR CONSIDERATION AND DECISION OF THE BOARD; AND TO ACT AS AN EXPLORATORY GROUP TO DEVELOP AFFIRMATIVE PLANS FOR THE ASSOCIATION TO BE CONSIDERED AND ACTED UPON BY THE BOARD.

Referring to the above recited proposed Section 4. (b) of Chapter VII, it was determined that the Immediate Past President should be a member of the Executive Committee, further, that comments should be included that the Executive Committee shall serve as a Central Office Advisory Committee.

Chapter VII—Standing and Special Committees, Section 4. (C) [(k)] Governmental Services—substitution of the word "SECTIONS" for the word "**subcommittees**" proposed.

Chapter VII—Standing and Special Committees, Section 4. (H) [(f)] Medical Economics—substitution of the word "SECTIONS" for the word "**subcommittees**" proposed.

Under Chapter VII—Standing and Special Committees, Section 4. (H) [(f)] Medical Economics (1), recommended that the words "GOVERNMENTAL CONTRACTS" be substituted for the words "**Medicare Contracts.**"

Chapter VII—Standing and Special Committees, Section 4. (I) [(g)] Professional—substitution of the word "SECTIONS" for the word "**subcommittees**" proposed; also, establishment of a SECTION ON PERINATAL AND MATERNAL MORTALITY outside the section on Public Health proposed.

Scholarships

The Benevolent and Loan Fund Committee reported the granting of scholarship awards to Jane E. Berrier (Scottsdale), graduate of ASU to Washington University; Judy K. Munyon (Phoenix), graduate of ASU to University of Arizona; Michael A. Platt (Tucson), graduate of U of A to University of Arizona; and Lowell W. Rogers (Phoenix), graduate of U of A to Johns Hopkins University. Each scholarship was in the amount of $500.

Communications were received from Jane E. Berrier and Michael A. Platt expressing grateful appreciation for the privilege of being recipients of the scholarship awards. RECEIVED.

Medical Student Loans

In the absence of Daniel T. Cloud, M.D., Chairman of the Benevolent and Loan Fund Committee, it was reported that negotiations have been concluded for the transfer of the ArMA Medical Student Loan Program to AMA-ERF, the program to be continued under the sponsorship of AMA-ERF, ArMA and VNB.

Medicine and Surgery Act

It was suggested that the Legislative Committee review the entire Medicine and Surgery Act with regard to the fifteen-year requirement for reciprocity and providing that Professors of the Medical School be available for consultation in private hospitals.

Medical Museum

Dr. Dexter reported that the Pima County Medical Auxiliary is considering the desirability of establishing a State Medical Museum at Fort Lowell and seeks authority to proceed. It was determined to refer this matter to the History and Obituaries Committee for consideration.

Neurologists

Question was raised with regard to the private practice vs. the Medical School in Pima County. Dr. Melick was requested to ascertain the facts and report.

Federal Legislation

Mr. Ray Miller, AMA Field Representative, reviewed activities in the Washington Office and, particularly, AMA's position regarding H.R. 12080, the Social Security Amendments of 1967. This Association previously conferred with its Senators urging approval without amendment to that portion of this bill relating to the Medicare amendments. Also discussed was H.R. 6418 entitled Partnership for Health Amendments for 1967.

MEETING ADJOURNED AT 3:50 P.M.

John P. Heileman, M.D.
Secretary

GOVERNMENTAL SERVICES COMMITTEE

Meeting of the Governmental Services Committee of The Arizona Medical Association, Inc., held Sunday, September 17, 1967, in Suite 201, 4601 North Scottsdale Road, Scottsdale, Arizona, convened at 10:24 A.M., William B. Steen, M.D., Chairman, presiding.

ROLL CALL

PRESENT: Drs. Cloud, Daniel T.; Dew, Philip E.; Dries, Charles P.; Farnsworth, Stanford F.; May, Derald G.; Melick, Dermot W.; Reed, Wallace A.; Spendlove, George A.; Steen, William B., Chairman. Staff—Mr. Robinson, Bruce E., Assistant Executive Secretary. Guest—Mr. Blazek, James J., Administrator, Medicare Claims, Aetna Life & Casualty.

EXCUSED: Drs. Caldwell, Hayes W.; Dudley, Jr., Arthur V., President-Elect; Dysterheft, Arnold H., President; Heileman, John P., Secretary; McDonald, R. T.; Ochsner, Albert J.; Yount, Jr., Clarence E.

MINUTES

The minutes of the meeting of July 16. 1967, were approved as distributed.

CARRIER — PART B — AETNA LIFE & CASUALTY

Mr. Blazek gave a general status report as follows:

Alleged Complaints

As a result of the invitation in "Medical Memos" to express complaints about Aetna's service, it was reported that four written responses were received. Three of these were complimentary, and the other indicated a misunderstanding of what was wanted. Three telephone responses were received, two of which were complimentary and the other was for information regarding a surgical allowance.

Employees

Mr. Blazek advised that his staff has been reduced to 73.

Claims

It was reported that most cases were being processed in a 3-to-10-day period; about 4,000 claims a week are being received. At present no claims have been referred to Review Committees for action. Mr. Blazek reported that between 1% and 2% of total claims have had to be reduced in amount paid the physicians.

Governmental Services Review Committee of Central Arizona

It was regularly moved and unanimously carried that the Committee approve the appointments to this committee as follows: Doctors Herbert Dozoretz, Walter R. Eicher, Gerald L. Hansbro, Frederick W. Jensen, Horace S. Kent, Patrick Moraca (Chairman), Wilfred M. Potter, and Walter O. C. Zuschke.

Fee Changes

A general discussion was held on the need for providing for a gradual change in fees to compensate for the rising cost of living. The importance of gradual changes, as opposed to large changes every five or ten years, was pointed out.

It was regularly moved and unanimously carried that Dr. Caldwell's subcommittee develop a set of guidelines or criteria for determining medical fees and for the gradual change in these fees. This subcommittee is also to be specifically asked to rule on the advisability of having a copy of all Medicare claims reviewed by a committee of doctors, as is done with the dentists in ICA cases, so that the profession will have the opportunity to police itself.

SUBCOMMITTEE ON OEO PROGRAMS

Dr. Philip Dew, Chairman, reported that no responses have been received from the various counties as to possible suggested membership on this subcommittee.

Dr. Dew commented on the development of the Head Start program in Tucson, pointing out that communication needs to be strengthened between the medical profession and the staffs of the OEO programs with the medical profession taking a greater leadership role.

SUBCOMMITTEE ON TITLE XIX

Dr. Reed reviewed the activities of this subcommittee since the last meeting.

The revised Title XIX plan was reviewed in detail by Dr. Reed and Dr. Farnsworth.

It was regularly moved and unanimously carried that the revised plan, as presented, be approved by this Committee and that Board of Directors approval be sought by a mail vote. Also that the opportunity be given the Arizona Psychiatric Society to submit a program to include psychiatric services that could be added to the final approved revised plan in a way to allow the legislators to exclude it, as opposed to allowing the legislators to include it.

Title XIX Newsletter

The concept of the Title XIX Newsletter was presented. It was pointed out that this is an effort to get as much understanding of Title XIX as possible on the part of the public.

It was regularly moved and unanimously carried that this Newsletter be created as soon as possible.

Appointment

Dr. Charles P. Dries, Pediatrician, was appointed as a member of the Title XIX Subcommittee. Said appointment was approved by the Committee.

SUBCOMMITTEE ON MENTAL HEALTH

Dr. Derald May reviewed in general the history and current status of the "mental health authority" in Arizona, as well as the various current pressures to change the existing "mental health authority" which currently rests with the State Health Department.

Dr. May indicated the question of a separate Department of Mental Health will undoubtedly be raised during the next session of the Legislature. He urged that ArMA be prepared to take a position should this materialize.

SUBCOMMITTEE ON COMPREHENSIVE HEALTH PLANNING

Committee Structure

Dr. Stanford F. Farnsworth reported on the development of his subcommittee stating that the following have accepted appointment:

Frederick J. Brady, M.D. — Tucson
Merlin K. DuVal, M.D. — Tucson
Donald F. Schaller, M.D. — Phoenix

It was recommended and approved that Dermont W. Melick, M.D., also be appointed to this subcommittee.

General Report

Dr. Farnsworth reviewed P.L. 89-749 in considerable detail. He pointed out that it does not cover all health programs. He stated that, at this time, the Governor has not appointed a single state agency to administer the Law which prohibits any real action at this time. Funds are available at present for planning but cannot be used until a single state agency is appointed.

Dr. Farnsworth also indicated that amendments to P.L. 89-749 are being debated in Congress at this time.

State Representative Frank Kelley's proposed Bill relating to this matter was reviewed.

Dr. Farnsworth urged that the State Association continue following the development of this Law in Arizona for the protection of the medical profession in Arizona.

Dr. Steen asked that Dr. Farnsworth and Dr. Spendlove attempt to talk with the Governor for further clarification of his position on P.L. 89-749.

SUBCOMMITTEE ON REGIONAL MEDICAL PROGRAMS

Dr. Dermont W. Melick was welcomed as a new member and subcommittee chairman by Dr. Steen.

Dr. Melick presented his concept of this program as follows:

> The Heart-Stroke-Cancer law (89-239) is a vague conglomeration of words in the minds of most physicians. This short report is an attempt at clarification. The DeBakey Commission report was very unpopular. It came in for a good deal of justifiable criticism. It appeared to be a direct threat to the present practice of medicine. It suggested a takeover where salaried physicians would be employed by a center to which all medical and surgical problems would be referred (and under duress so it seemed) for definitive treatment. This concept, if implemented, would have made the practicing physician a second-rate citizen working under unfavorable conditions without responsibility to or loyalty from his patients. Obviously no physician in his right mind would tolerate this for one moment. Objections were raised to the Commission report. Pertinent suggestions were made in the proper places. The DeBakey Commission recommendations were neatly emasculated, disemboweled and deposited in proper burial fashion without benefit of mourners. There it remains today. Ever may it remain interred.
>
> The law as eventually passed is one that allows the practicing physician to determine his own fate. It allows him to give to his patient his best efforts and knowledge supplemented, aided and abetted by methods and innovations peculiar to the accumulated medical knowledge available as of the immediate present. The success of the effort to implement the Heart-Stroke-Cancer law rests in the able hands of the physicians of this country. To date the physicians have responded in commendable fashion. When a satisfactory understanding of the law is accomplished, cooperation from the physicians has resulted. This understanding does not come easily. Every attempt must be made at a local level to give this law complete, full and searching discussion. If criticism is to be forthcoming let it be now when clear answers may be offered. If suggestions for action are to be seriously considered, let them be presented now when they can be given adequate study in order to arrive at the best conclusions. The physicians have the ability, understanding, knowledge and humanitarianism to make this law one of great benefit to their patients. The indirect personal benefits to the physician should be immense. The specifics of the law will be discussed with each county medical association at the convenience of their membership. It would be hoped that the end result will find all of us in accord in one objective; that our patients shall not want for care and such care shall be delivered at the highest quality level it is within our power to command.

Dr. Melick also presented a suggested chart of organization which provides for all proposed programs to be routed through the county medical society and then through the State Association before it would be considered by the Regional Medical Programs staff.

Considerable discussion ensued on the great potential and possibilities of this program.

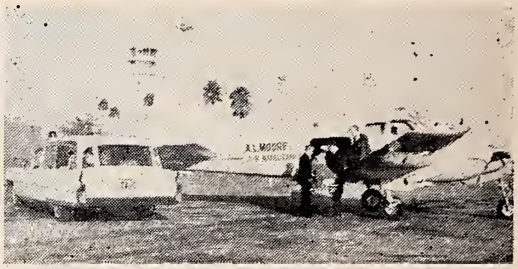
OTHER BUSINESS

Dr. Spendlove briefly reported on the new Federal Driver's License Regulations which are in the process of being formulated.

MEETING ADJOURNED AT 3:10 P.M.

John P. Heileman, M.D.
Secretary
by Bruce E. Robinson
Assistant Executive Secretary

24-HOUR AIR AMBULANCE SERVICE



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Material submitted for publication in ARIZONA MEDICINE should conform to the following policies:

1. Manuscripts, including references or bibliography, should be typewritten, double-spaced, on one side of the paper only, and the original and a carbon enclosed.
2. Be guided by the general rules of medical writing as followed by the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.
3. Although the Editors try to catch inaccuracies, the ultimate responsibility is the author's.
4. Articles are accepted for publication only if they are contributed exclusively to this Journal. Ordinarily, contributors will be notified within 60 days if a manuscript is accepted for publication. Every effort will be made to return unused manuscripts.
5. The Journal reserves the right to edit all material.
6. Reprints will be supplied to the author at printing cost.

A Building Block approach to treating hypertension

ABBOTT

With these three therapeutic building blocks you can create a once-a-day regimen to fit almost any degree of hypertension. See the following pages for details . . .

Consider starting your hypertensives on this basic thiazide

ABBOTT

A single daily dose of Enduron provides sodium excretion around the clock

Enduron is a true 24-hour single-dose thiazide. Its sodium excretion is not squeezed into an abrupt peak during the first several hours. It is well-sustained in a plateau-like effect—with little reduction for the first 12 hours, and decline thereafter only gradual.

Potassium loss, by contrast, is low. It reaches an early minor peak, then subsides rapidly. Moreover, since dosage is but once a day, there is but one daily peak of potassium loss. As with all thiazides, however, dietary potassium supplementation should also be considered, especially in long or intensive therapy.

Use Enduron as an ideal starting therapy in mild hypertension. Use it too, as a basic therapeutic building block with which other agents can be joined, for managing your more resistant hypertensives.

Once a day, every day

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	Minimum	Usual	Intermediate	Maximum
DAILY DOSAGE RANGE	 2.5 mg. tablet	 5 mg. tablet	 7.5 mg.	 10 mg.

See Brief Summary on final page of advertisement.

To build added response, shift to Enduronyl

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The deserpidine component adds enhanced antihypertensive activity

The rauwolfia component of Enduronyl is deserpidine (Harmonyl®), a purified crystalline alkaloid supplied only by Abbott. It augments Enduron with its own antihypertensive and tranquilizing action.

Thus the combined clinical effect of these two therapeutic building blocks in Enduronyl is greater than can ordinarily be achieved with either alone.

To add flexibility, Enduronyl comes in two strengths: regular and Forte. Both provide 5 mg. of Enduron. The variation is where most helpful: in the deserpidine. The tablets are scored, and give a surprisingly wide and economical choice of once-a-day doses (see below).

Choose Enduronyl for your patients in the broad range of mild to moderate hypertension. Patient acceptance is excellent!

Once a day, every day

ENDURONYL®

METHYCLOTHIAZIDE 5 MG. WITH DESERPIDINE 0.25 MG.

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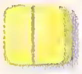
METHYCLOTHIAZIDE 5 MG. WITH DESERPIDINE 0.5 MG.

	Minimum	Usual	Intermediate	Maximum
DAILY DOSAGE RANGE	 2.5 mg. methyclothiazide 0.125 mg. deserpidine	 5 mg. methyclothiazide 0.25 mg. deserpidine	 7.5 mg. methyclothiazide 0.375 mg. deserpidine	 10 mg. methyclothiazide 0.5 mg. deserpidine
DAILY DOSAGE RANGE	 2.5 mg. methyclothiazide 0.25 mg. deserpidine	 5 mg. methyclothiazide 0.5 mg. deserpidine	 7.5 mg. methyclothiazide 0.75 mg. deserpidine	 10 mg. methyclothiazide 1 mg. deserpidine

See Brief Summary on final page of advertisement.

707075-R

Eutonyl affords a different kind of basic therapy for moderate to severe cases

Effect tied to reduced peripheral vascular resistance; no central depressant action

Eutonyl is a unique nonhydrazine agent. It is reported to act by reducing peripheral vascular resistance.[1,2]

In clinical trials, significant reductions in mean blood pressure were seen in 84% of patients studied—all were moderate to severe cases. Eutonyl lowers diastolic in proportion to systolic, and in about half of the cases studied, reductions in the sitting and recumbent positions were nearly as great as in the standing position.

Most important: There is no central depressant action. In fact, some patients reported an *increased* sense of well being.

Here, then, is a highly effective *basic treatment* for moderate to severe cases—and one that will not hamper your patient with lethargy or drowsiness while on treatment.

EUTONYL
10 PARGYLINE HYDRO-CHLORIDE
EUTONYL
25 PARGYLINE HYDRO-CHLORIDE
EUTONYL
50 PARGYLINE HYDRO-CHLORIDE
Pargyline
Hydrochloride

Once a day, every day

EUTONYL®
PARGYLINE HYDROCHLORIDE

DAILY DOSAGE RANGE	Minimum	Usual starting	Intermediate	Maximum
	10 mg. tablet	25 mg. tablet	50 mg. tablet or as needed	200 mg.

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1. Brest, A. N., et al., Cardiac and Renal Hemodynamic Response to Pargyline, Ann. N. Y. Acad. Sci., 107-1016, 1963.
2. Winsor, T., Pargyline Hydrochloride, Hypertension, Urinary Tryptamine, and Vascular Reflexes, Geriatrics, 19:598, Aug., 1964.

See Brief Summary on final page of advertisement.

Eutron adds thiazide for enhanced therapy with milder side effects

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Only a 7/4 mm. span between standing and recumbent pressures in clinical trials—reduced chance of orthostatic hypotension

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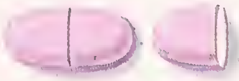
DAILY DOSAGE RANGE	 12.5 mg. pargyline hydrochloride and 2.5 mg. methyclothiazide	 25 mg. pargyline hydrochloride and 5 mg. methyclothiazide	 37.5 mg. pargyline hydrochloride and 7.5 mg. methyclothiazide	 50 mg. pargyline hydrochloride and 10 mg. methyclothiazide

See Brief Summary on final page of advertisement.

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METHYCLOTHIAZIDE

Each tablet contains
Methyclothiazide 5 mg. with
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Indications: Enduron is used to control edema and mild to moderate hypertension; also used with other drugs for hypertension. Enduronyl is used in mild to moderately severe hypertension; when used with Enduronyl, more potent agents can be given at reduced dosage to minimize undesirable side effects.

Contraindications: Neither Enduron nor Enduronyl should be used in severe renal disease (except nephrosis) or shutdown; in severe hepatic disease or impending hepatic coma; in patients sensitive to thiazides. Hepatic coma has been reported as a result of hypokalemia in patients receiving thiazides.

Enduronyl is contraindicated in patients with severe mental depression and suicidal tendencies, active peptic ulcer, or ulcerative colitis.

Warnings: Consider possible sensitivity reactions in patients with a history of allergy or asthma. If added potassium intake is indicated, dietary supplementation is recommended. Enteric-coated potassium tablets should be reserved for cautious use only when adequate dietary supplementation is not practical because those tablets may induce serious or fatal small bowel lesions consisting of stenosis with or without ulceration. These small bowel lesions have caused obstruction, hemorrhage and perforation frequently requiring surgery. Medication should be discontinued immediately if abdominal pain, distension, nausea, vomiting or GI bleeding occurs.

Precautions: Use thiazides with caution in severe renal dysfunction, impaired hepatic function, or progressive liver disease. In surgical patients, thiazides may reduce the response to vasopressors and increase the response to tubocurarine. Use thiazides with caution in pregnancy (bone marrow depression, thrombocytopenia, or altered carbohydrate metabolism have been reported in certain newborn infants). Also reported have been: blood dyscrasias including thrombocytopenia with purpura, agranulocytosis and aplastic anemia; elevations of BUN, serum uric acid, or blood sugar. Symptomatic gout may be induced. Antihypertensive response may be enhanced following sympathectomy.

Use Enduronyl with caution in patients with a history of peptic ulcer, as rauwolfias may increase gastric secretion. Discontinue at the first sign of mental depression. Rauwolfia alkaloids may increase hypotensive effects of surgery or anesthesia, and should be discontinued two weeks prior. They also lower the convulsive threshold and shorten seizure latency. In epilepsy, dosage adjustment of anticonvulsant medication may be necessary. Alcohol, barbiturates, or narcotics may potentiate action of deserpidine.

Adverse Reactions: During intensive or prolonged therapy, guard against hypochloremic alkalosis and hypokalemia (especially the latter if patient is on digitalis). All patients should be observed for signs of hyponatremia ("low-salt" syndrome). Reported thiazide reactions include: anorexia, nausea, vomiting, diarrhea, headache, skin rash, dizziness, paresthesia, weakness, photosensitivity, jaundice, and pancreatitis.

Reported rauwolfia reactions include: nasal stuffiness, nausea, weight gain, diarrhea, aggravation of peptic ulcer, epistaxis, skin eruption, and reduction of libido and potency. Excessive drowsiness, fatigue, weakness, and nightmares may signal early signs of mental depression.

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PARGYLINE HYDROCHLORIDE

Each tablet contains
Pargyline Hydrochloride 25 mg.
with Methyclothiazide 5 mg.

Indications: For treatment of patients with moderate to severe hypertension, especially those with severe diastolic hypertension. Not recommended for patients with mild or labile hypertension amenable to therapy with sedatives and/or thiazide diuretics alone. It is desirable to establish the dosage of Eutron by administering component drugs separately.

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Contraindications: Pheochromocytoma, advanced renal disease, increasing renal dysfunction, paranoid schizophrenia and hyperthyroidism. Hepatic coma has been reported as consequence of hypokalemia with thiazide therapy. Until further experience is gained not recommended for patients with malignant hypertension, children under 12, or pregnant patients.

Concomitant use of the following is contraindicated: other monoamine oxidase inhibitors; parenteral forms of reserpine or guanethidine; sympathomimetic drugs; foods high in tyramine such as cheese; imipramine and amitriptyline, or similar antidepressants; methyldopa. 2 week interval should separate therapy and use of these agents.

Methyclothiazide is contraindicated in patients with known sensitivity to thiazides.

Warnings: Pargyline hydrochloride is a monoamine oxidase inhibitor. Warn patients against eating cheese, and using alcohol, proprietary drugs or other medication without the knowledge of the physician. When indicated, alcohol, narcotics (meperidine should be avoided), antihistamines, barbiturates, chloral hydrate, and other hypnotics, sedatives, tranquilizers, or caffeine, may be used cautiously in reduced dosage. In emergency surgery ¼ to ⅕ the usual dose of narcotics, analgesics, and other premedications should be used avoiding parenteral administration where possible. Carefully adjust dose of anesthetics to response of patient. Withdraw pargyline two weeks before elective surgery.

Warn patients about the possibility of postural hypotension. Those with angina or coronary artery disease should not increase physical activity with an improvement in well being. Pargyline may lower blood sugar.

Avoid use of enteric-coated potassium tablets, as these may induce serious or fatal small-bowel lesions consisting of stenosis with or without ulceration. These small-bowel lesions have caused obstruction, hemorrhage and perforation frequently requiring surgery. Medication should be discontinued immediately if abdominal pain, distension, nausea, vomiting or GI bleeding occurs. These products contain no added potassium salts and if added potassium intake is desired, dietary supplementation is recommended. Coated potassium tablets should be reserved for cautious use when adequate dietary supplementation is impractical. In patients with a history of allergy or asthma the possibility of sensitivity reactions should be considered.

Precautions: Measure blood pressure while patient is standing to determine antihypertensive effect. Use with caution in hyperactive or hyperexcitable persons. Such persons may show increased restlessness and agitation. Withdraw drug during acute febrile illness. Watch patients with impaired renal function for increasing drug effects or elevation of BUN and other evidence of progressive renal failure; withdraw drug if such alterations persist and progress. Use with caution in patients with liver disease. As with all new drugs, complete blood counts, urinalyses, and liver function tests should be performed periodically. With prolonged therapy, examine patients for change in color perception, visual fields and fundi. Also reported have been: blood dyscrasias including thrombocytopenia with purpura, agranulocytosis and aplastic anemia; elevations of BUN, serum uric acid, or blood sugar. Symptomatic gout may be induced. In surgical patients thiazides may reduce response to vasopressors and increase response to tubocurarine.

Adverse Reactions: Pargyline may be associated with orthostatic hypotension. Mild constipation, slight edema, dry mouth, sweating, increased appetite, arthralgia, nausea and vomiting, headache, insomnia, difficulty in micturition, nightmares, impotence, delayed ejaculation, rash, and purpura have been encountered with pargyline. Hyperexcitability, increased neuromuscular activity (muscle twitching) and other extrapyramidal symptoms have been reported in a few patients with reduced cardiac reserve.

During intensive or prolonged therapy, guard against hypochloremic alkalosis and hypokalemia (especially the latter if patient is on digitalis). Observe all patients for signs of hyponatremia ("low salt" syndrome).

Reported thiazide reactions also include anorexia, nausea, vomiting, diarrhea, headache, dizziness, paresthesia, weakness, skin rash, photosensitivity, jaundice, and pancreatitis. Nocturia has been observed with the combination.

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The Clinical Value of Selective Coronary Angiography

Alberto Benchimol, M.D.
Harvey C. Tippit, M.D.
Ivan G. Maia, M.D.

The indications for coronary angiography are clearly stated by the authors. This new technique is now being widely used and can be an extremely useful adjunct to other diagnostic procedures in clinical cardiology.

SINCE the introduction of selective coronary angiography by Sones,[1] several reports by others[2-12] have confirmed his observations and this technique has gained acceptance in medical centers throughout the world as a valuable means of diagnosing coronary artery disease and other causes of chest pain.

The present report is a review of our experiences with selective coronary angiography over the past four years. During this period (1963-1966) we have performed approximately 200 such procedures in patients with various forms of heart disease. Fig. 1-5.

Indications for Coronary Angiography

1) **Patients with clinical evidence of coronary artery disease.** This probably includes the greatest number of patients subjected to coronary angiograms. Most of them are potential candidates for surgical relief of coronary disease. The procedure is required prior to a revascularization procedure, such as the Vineberg operation, in order to identify the severity and location of the obstructive processes. Internal mammary artery implantation in the wall of the left ventricle (Vineberg's procedure) and its variations can give some relief of angina pectoris if obstruction is predominantly located in the left anterior descending coronary artery. Fig. 2 & 4. Posterior left ventricle implantation or right ventricular implantation can also be accomplished, requiring the use of an intercostal artery. The patient with a single obstructive plaque located near the ostium of a coronary artery may be a candidate for direct coronary artery surgery, consisting of an endarterectomy with or without venous graft. Coronary angiography must be performed prior to any of these surgical procedures in order to locate and define the extent of the disease process.

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from the
Institute for Cardiovascular Diseases
Good Samaritan Hospital, Phoenix, Arizona

Supported in parts by grants from NIH No. HE11131-01, Southwest Foundation for Medical Research and Education and Arizona Heart Association

2) **In patients with evidence of coronary artery disease who are not candidates for surgery** this technique is less valuable. However, even in those patients the coronary angiogram provides a map of the coronary tree and a better knowledge of the degree of involvement of the coronary system.

3) **Patients with atypical chest pain.** This is a large group of patients who may be benefited by coronary angiograms. The physician is often confronted with the clinical problem of properly labeling the cause of "atypical chest pain." In some instances a diagnosis of angina pectoris is made when there is actually no coronary artery disease or other organic heart disease. Fig. 5.

The diagnosis of coronary atherosclerosis is the prerogative of the physician, sometimes aided by the resting or exercise electrocardiogram. The patient may be treated with any of a variety of drugs. The diagnosis naturally arouses anxiety, and some patients may become addicted to narcotics used to relieve "severe angina pectoris." Case 1 of the appendix is a typical example of this case.

Coronary angiograms are indicated in this group of patients because the absence of any major obstructive process in the angiogram almost excludes coronary disease as a cause of chest pain. Occasionally, however, one may find patients with angina pectoris with "normal" major vessels of the angiograms and this has been attributed to a small vessel disease.

4) **Patients without chest pain but with non-specific electrocardiographic abnormality.** The electrocardiographer in his desire to help the physician will at times "overread" the electrocardiogram, and that may "confirm" an unwarranted diagnosis of coronary atherosclerosis, to the patient's detriment. Most of these patients have non-specific abnormalities on the electrocardiogram and the angiograms are usually normal. The other facet of the problem is the case of a patient whose electrocardiogram is diagnostic of an infarction, but the physician will not accept the diagnosis of coronary artery disease because of the absence of symptoms. Fig. 5 Most such patients probably have experienced asymptomatic myocardial infarction and have significant coronary disease. The risk of sudden death due to an arrhythmia or other complication of coronary artery disease is great in this group of patients and it is critical that the correct diagnosis be established. The diagnosis is particularly important if the patient is engaged in public transportation, as pertains to airplane pilots, bus drivers and the like. Coronary angiography is of a great value in both groups of patients by determining whether or not significant obstructive disease is present.

5) **Patients with aortic valve disease and angina pectoris.** We perform coronary angiograms in all adult patients with aortic valvular disease who are candidates for surgical correction of the valvular lesion. The association of severe coronary artery disease with aortic stenosis makes the prognosis worse, and possible benefits from surgical correction of the aortic valve disease are lessened. We do not believe that operations should be denied to these patients because of the presence of coronary disease, but operative mortality is high and post-operative improvement may be slight. On the other hand, patients with aortic stenosis may have severe angina pectoris in the absence of significant coronary artery disease in which case relief of angina pectoris is expected after proper repair of the aortic valvular disease. Case 2 of appendix.

6) **Certain forms of congenital heart disease.** Congenital anomalies of the coronary arteries occur in a fair number of patients with congenital heart disease. There is no denying the advisability of coronary angiography in children suspected to have the well recognized picture of anomalous coronary artery. Another group of patients particularly likely to have an abnormal distribution of the coronary arteries is those with corrected transposition of the great vessels (Case 3 of appendix), tetralogy of Fallot and perhaps other anomalies. It is our routine to obtain coronary angiograms during cardiac catheterization in such patients in order to delineate the location and distribution of the main branches of the coronary arteries. The angiographic findings help the cardiac surgeon in planning the proper approach for a cardiotomy.

Technique

The technique which is used in our laboratory is the selective coronary angiography as originally described by Sones. The patient is premedicated with 50 or 75 mg. of meperidine (Demerol), 25 mg. of Phenergan and 0.4 mg. of Atropine.

This medication is given intramuscularly 30 minutes prior to the procedure. The right antecubital area is prepared and infiltrated with 1% Carbocaine. The right brachial artery and the medial anticubital vein are exposed. A #7½ Sones catheter (positrol U.S. Cath) is introduced into the artery and advanced to the ascending aorta. A #8 Zucker bipolar electrode catheter is introduced into the cubital vein and advanced to the right atrium. The bipolar catheter is then connected to a portable external pacemaker (Cordis), and the right atrium is paced at a rate just above the sinus rate. Throughout the procedure the Sones catheter is manipulated with fluoroscopic control using a Siemens 6 inch image intensifier with closed circuit television system. The tip of the catheter is positioned in the base of the aorta near the ostia of the coronary arteries. The order of entry of the coronary arteries is variable. A small amount of 75% Hypaque (5 to 7 ml.) is injected by hand through the catheter in order to determine the position of the catheter tip. After trial and error the ostia of the coronary arteries are entered. High speed cineangiograms are obtained in multiple projections using 35mm. Arriflex camera at a frame speed of 48 to 60 per sec. The best projections for proper study of the coronary tree are the left anterior oblique position at 45 degrees. In addition to the 35 mm. films an Elema-Schonander unit is used and six 14 x 14 plates are exposed in one second. For each exposure 5 to 7 ml. of Hypaque are used. The number of injections varies from 6 to 12.

Lead II of the electrocardiogram is continuously monitored and a DC defibrillator is on standby throughout the procedure. In addition to the 35 mm. film, video tape of the angiograms is obtained, affording immediate playback of the angiograms (Ampex video tape recorder).

Complications

In our experience which now amounts to 210 cases there has been no mortality. Major arrhythmias occured in four cases; these were two episodes of ventricular fibrillation which occurred during injection and two episodes of ventricular tachycardia. All were promptly treated by means of DC shock with immediate restoration of a normal sinus rhythm. All these arrhythmias occurred prior to use of atrial pacing. An additional patient with severe angina pectoris (15 to 20 episodes a day) developed an acute myocardial infarction five days following the coronary angiograms.

In four to six percent of all cases the radial pulse could not be obtained after repair of the brachial artery, presumably because of thrombosis of the artery. None were incapacitated from the blockage nor required surgical correction.

Two patients developed medial nerve causalgia after infection with Pseudomonas species at the sites of cutdown. Neither patient was permanently disabled by that complication.

Discussion

Our experience has demonstrated the value of selective coronary angiography in the diagnosis of atypical chest pain. It also has raised a question as to the validity of the assumption that everyone past 30 to 40 has coronary artery disease, an expression which has gained popularity in recent years and is believed by many.

It cannot be doubted that the combination of several laboratory tests (including resting and exercise electrocardiograms, vectorcardiograms and apexcardiograms) is useful in establishing the cause of chest pain. Coronary arteriography has added considerably to our understanding of the disease process and it should be used in combination with all other ancillary laboratory tests.

A number of patients with angina pectoris and abnormal coronary angiograms were found to have normal resting and exercise electrocardiograms. Yet one must be aware that no test available to the physician yields a certain diagnosis of coronary disease and this holds true for coronary arteries, isolated small plaques or irregularity of the lumen without major obstruction (less than 60% occlusion of the lumen) in a single vessel was not usually associated with angina pectoris. The reverse is also true: Angina occurs (rarely) with normal major branches of the coronary arteries on the angiogram, probably on the basis of small vessel disease not seen on the angiogram.

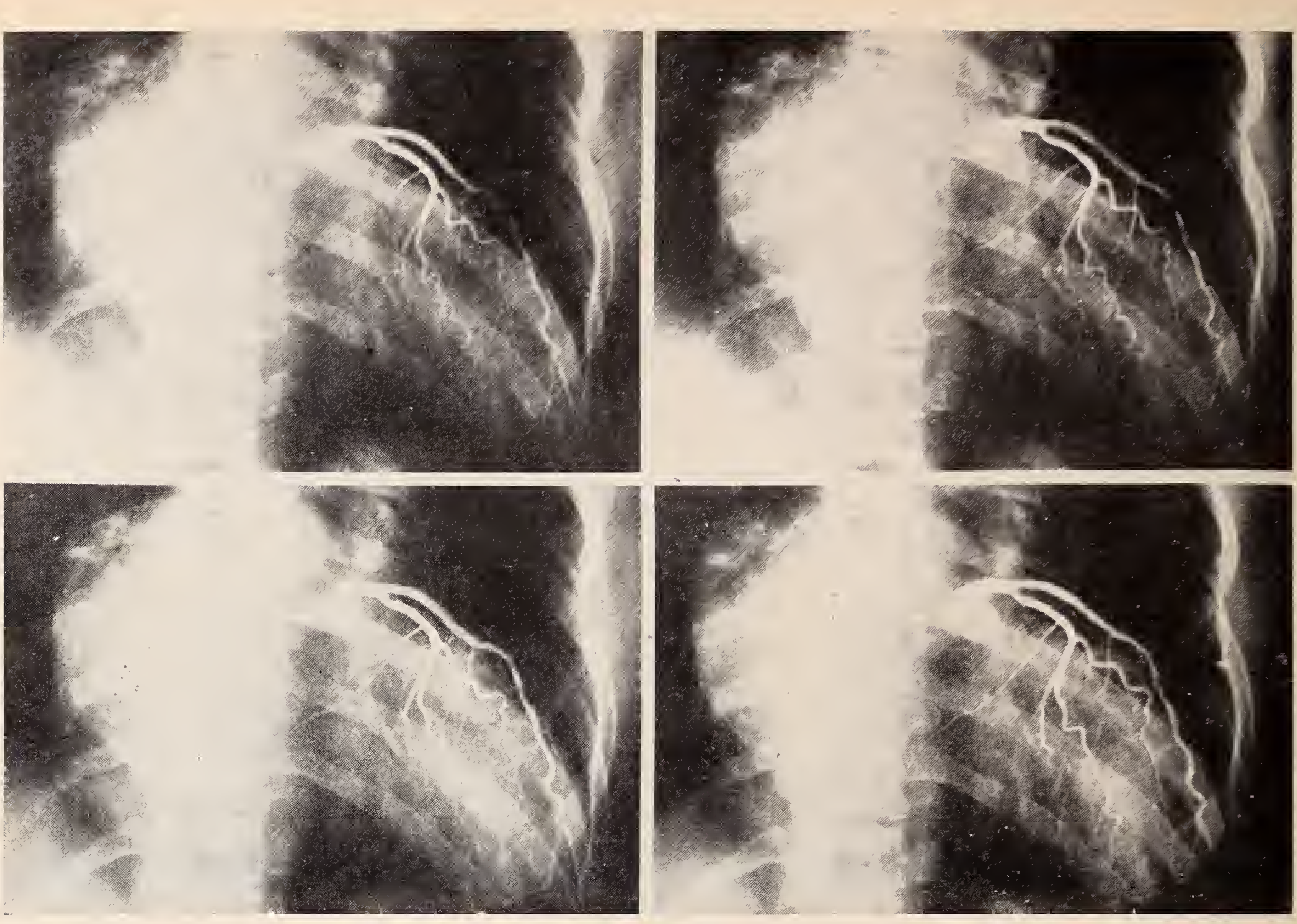

Figure 1
Normal left coronary angiogram in 30-year-old male without history of heart disease. Note the short trunk of the main left coronary artery and the bifurcation with the two main branches: left anterior ascending artery (follows the left border of the heart) and the left circumflex artery (medial to the anterior descending).

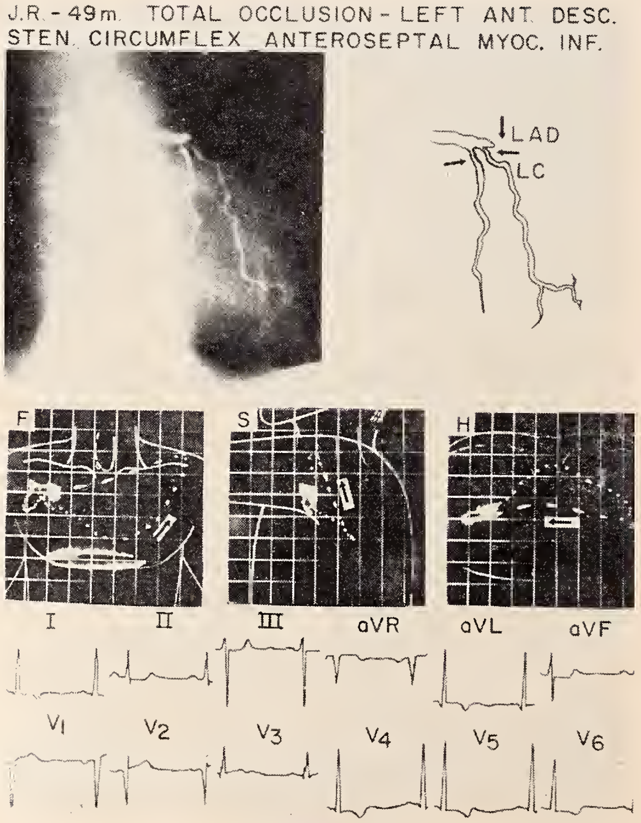
J.R. - 49m. TOTAL OCCLUSION - LEFT ANT. DESC.
STEN. CIRCUMFLEX ANTEROSEPTAL MYOC. INF.
LAD
LC
F
S
H
I
II
III
aVR
aVL
aVF
V1
V2
V3
V4
V5
V6

Figure 2

Figure 2
Abnormal coronary angiogram in a 49-year-old male with total occlusion of the left anterior descending coronary artery (LAD). There is also a major occlusive process at the take-off of the left circumflex artery (LC). Arrows indicate the site of obstruction. Frontal (F), Saggital (S) and Horizontal (H) planes vectorcardiogram are also illustrated, demonstrating the presence of an extensive antero-lateral myocardial infarction. Electrocardiogram is also typical of an antero-lateral infarction.

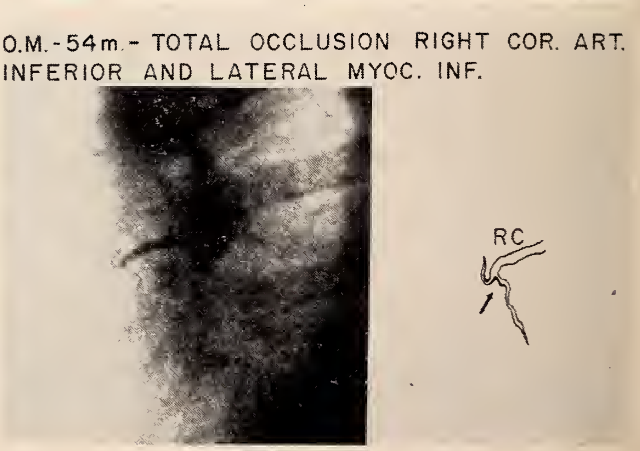
O.M.-54m.- TOTAL OCCLUSION RIGHT COR. ART.
INFERIOR AND LATERAL MYOC. INF.
RC

Figure 3
Total occlusion of the main trunk of the right coronary artery (arrow) in a 54-year-old male with chest pain not considered to be angina pectoris and with electrocardiographic evidence of an inferior and lateral wall myocardial infarction.

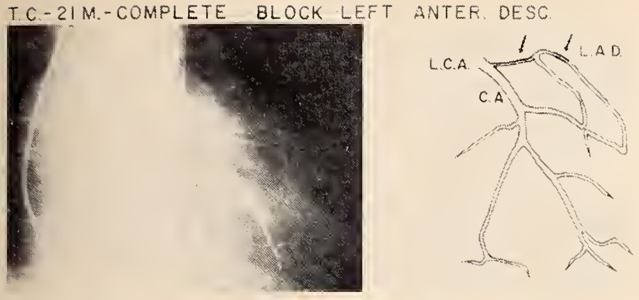

Figure 4
Abnormal coronary angiogram in a 21-year-old male with complete block of the left anterior descending (LAD) artery. Collateral circulation from the circumflex artery (CA) bypasses the lesion and established communication with the LAD artery. The patient had typical history of myocardial infarction.

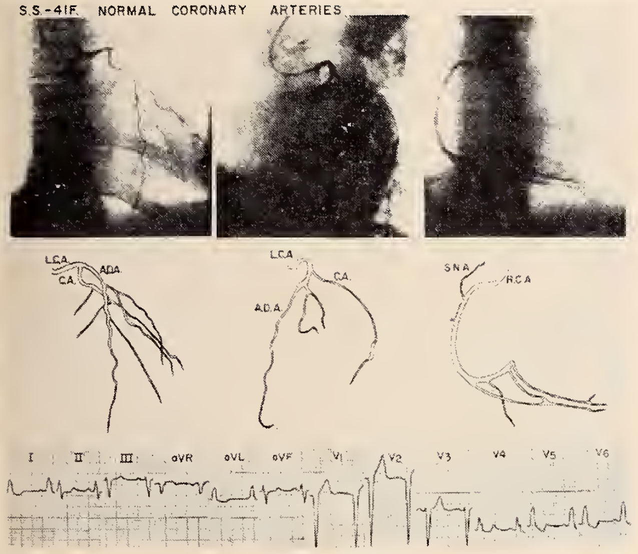

Figure 5
Normal coronary angiogram in a 41-year-old woman with history of atypical chest pain and abnormal electrocardiogram showing complete left bundle branch block. This patient was diagnosed as myocardiopathy of unknown etiology.

Summary and Conclusions

This paper discusses our experience with selective coronary angiography in 210 patients with various forms of heart disease and the opinions which we have derived from that experience.

The technique was found to be useful in confirming the diagnosis of coronary disease and in investigating atypical chest pain. Significant occlusion (60% or more) of one or more of the major coronary arteries was almost invariably associated with symptoms. A small portion had what was thought to be angina pectoris but lacked significant major vessel involvement. This was attributed to small vessel disease not revealed by the angiograms. A number of patients with angina pectoris and abnormal coronary angiograms were found to have normal resting and exercise electrocardiograms.

APPENDIX

Case 1.

A. D., a 48-year-old registered nurse, underwent hysterectomy-bilateral oophorectomy when she was only 17. In 1957 she was hospitalized with severe anterior chest pain; she was confined there one month and told she had sustained a myocardial infarction. In 1962 she began to have recurrent pains from left of the sternum to the left infra-scapular area, and heaviness in the left arm. These discomforts occurred during exercise and nitroglycerin failed to give relief. She became confined to bed and began taking narcotics regularly for avoidance of pain, nausea and vomiting.

On physical examination the blood pressure was 120/60 mm.Hg. Carotid sinus stimulation slightly slowed the heart but did not relieve her pain. Tenderness was detected inconsistently and in various places in the anterior chest wall. The heart and peripheral vasculature appeared normal. Chest x-ray showed normal heart size. Tests of the blood and urine, the electrocardiograms of the 1957 episode were reviewed and they showed non-specific abnormalities of the T waves.

Coronary arteries were visualized by angiography. The right coronary artery was normal; the left coronary sinus was injected and the left main coronary artery and main parts of the anterior descending and circumflex branches were normal. Pulmonary arteriography demonstrated normal pulmonary arteries.

This case illustrates the problem of atypical chest pain in a patient who has become addicted to narcotics because of the diagnosis of "severe angina pectoris." Normal coronary angiograms in this type of problem definitely ruled out coronary disease as a cause of chest pain.

Case 2.

J. C., a 59-year-old man who at the age of 53 began to have burning sensation in the sternum while climbing stairs. This began to occur during his work as a bricklayer and in the mornings whenever he walked on a level. It progressed until he could not walk 15 feet without pain. He never fainted but felt dizzy after sitting up or lying down quickly or rolling over in bed. In September, 1966, he had dyspnea at night and had to sit up to catch his breath. Digitalis was prescribed, and no further dyspnea occurred.

On physical examination the arterial pulses were soft and sustained. Blood pressure was 110/60 mm.Hg. A crescendo-decrescendo, high pitched murmur filled systole and suggested the sound of sawing wood; it was loudest at the aortic area and manubrium and was heard at the left sternal border, apex and carotid arteries. There was a quiet, high pitched, decrescendo diastolic murmur at the third intercostal space, left sternal border.

Cardiac catheterization demonstrated normal pressures in the right side of the heart. Retrograde catheterization of the left ventricle demonstrated a systolic pressure gradient at the aortic valve of 50-80 mm.Hg.

Cineangiography revealed no significant mitral insufficiency but moderate aortic insufficiency with opacification of the left ventricle from the aortic root. Coronary arteriography revealed widely patent coronary arteries and retrograde flow occurred during systole from the left coronary artery to the aorta.

On December 22, 1966, a calcified, bicuspid aortic valve was removed and replaced with a caged ball prosthesis. The patient had a good post-operative recovery and was discharged from the hospital 3 weeks after the open heart surgery.

This case illustrates the presence of angina pectoris due to severe aortic valvular disease in the absence of any significant degree of coronary disease.

Case 3.

A. T., 29-year-old housewife with a heart murmur first heard at age of 6. She was asymptomatic until October 1965 when she experienced slight chest pain and fainted. Thereafter, she had pains to the left of the sternum and under the left breast which were only occasionally associated with exercise, and she felt a cramping sensation in the anterior chest accompanied by lightheadedness at times.

On physical examination the blood pressure was 100/70 mm.Hg. Pulse was 80 and regular. The apical impulse was normally located but sustained and there was a Grade III, holosystolic murmur over the entire precordium, loudest at the left sternal border in the fourth intercostal space.

Electrocardiogram suggested left ventricular hypertrophy and strain. Chest x-ray showed an abnormal upper left cardiac border suggesting an abnormally located ascending aorta and the vascular base of the heart was narrow.

Cardiac catheterization revealed no abnormal gradients at the valves. Cineangiocardiography demonstrated corrected transposition of the great arteries without valvular deformity. Coronary angiography revealed an abnormal position of the left coronary artery; the coronary arteries were free from obstruction.

This case demonstrates an anomalous distribution of the coronary arteries in a patient with congenital heart disease. It also ruled out coronary artery involvement or the cause of an atypical chest pain.

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Gastric Hypothermia for Massive Upper Gastrointestinal Hemorrhage

Benedict R. Walske, M.D.*
Neopito L. Robles, M.D.*
Harmon G. Harrison, M.D.**

Gastric hypothermia may be of considerable value by converting potential high-risk emergency operative procedures into elective operations with reduced morbidity and mortality.

THE high morbidity and mortality associated with emergency surgery for massive upper gastrointestinal hemorrhage have stimulated investigators to search for a more satisfactory treatment. Dr. Owen Wangensteen published his first report[4] on gastric hypothermia for massive upper gastrointestinal hemorrhage in 1958. Preliminary studies on experimental animals clearly established that cooling of the stomach produced a significant reduction in gastric blood flow, acid secretion and digestive activity. These alterations are believed to be the prime mechanisms[4,6] by which esophageal, gastric and duodenal hemorrhage are controlled.

TABLE I
LOCAL EFFECT OF GASTRIC HYPOTHERMIA

1. Peptic activity is essentially suspended.
2. Gastric secretion of HCL is diminished by 75% or more.
3. Gastric blood flow is decreased about 60%.
4. Motility of stomach and G.I. tract slowed down.
5. Antrum still responds to stimuli (after cooling) — cold apparently acts directly on parietal cells.
6. Rebound appearance of gastric secretion usually within 2-6 hours after cessation of hypothermia.

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Gastric cooling also produces reduction in hepatic blood flow[5], renal blood flow[3] and pancreatic enzyme activity[2]. Gastric hypothermia readily induces systemic hypothermia and generally requires application of external heat[1,6].

TABLE II
CHANGES PRODUCED BY GASTRIC HYPOTHERMIA ON OTHER ORGANS

1. Reduction of hepatic blood flow (30%).[5]
2. Fifty to sixty percent reduction of renal blood flow and glomerular filtration rate.[3]
3. Reduction of pancreatic enzyme activity and reduction of intraperitoneal fluid production in experimentally produced pancreatitis (50%).[2]
4. Reduction of general body temperature.[6]

Apparatus

Gastric cooling is achieved by the circulation of a chilled ethyl alcohol solution (50-95%) through an intragastric baloon. The apparatus requires a refrigeration unit, a pump, thermometers and a valve control mechanism which will maintain constant flow and fixed inflation of the intragastric balloon. We have chosen the Swenko Gastric Hypothermia Machine (Figure 1) although other suitable machines are available to the medical profession. Figure 2 shows the latex balloons of varying shapes designed for control of bleeding in the duodenum, stomach and esophagus.

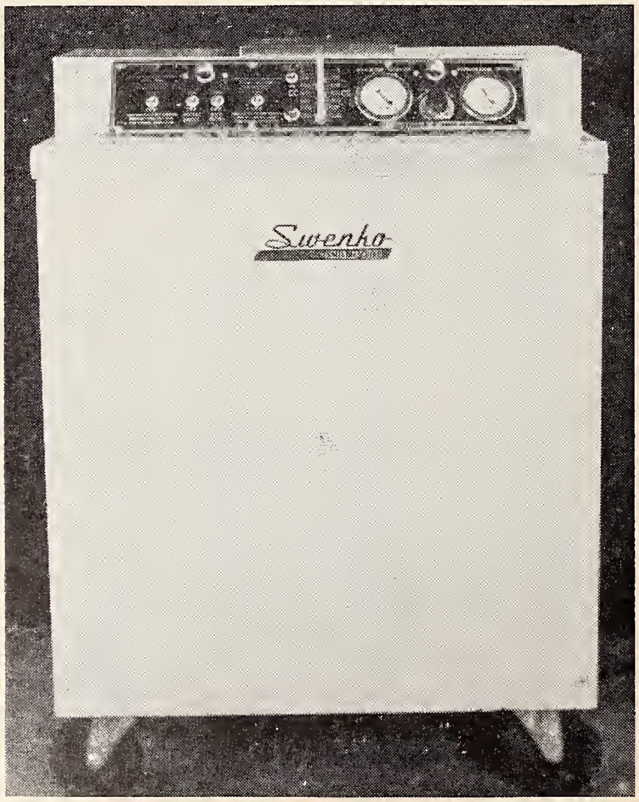

Figure 1

Technique

At the Tucson Veterans Administration Hospital all patients with massive upper gastrointestinal hemorrhage are admitted to the Surgical Service. Blood volume is restored with appropriate electrolyte solutions and an adequate quantity of blood. Continuous nasogastric suction is instituted and moderate sedation of the patient provided. Should this conservative regimen fail, the stomach is thoroughly evacuated of its contents by means of repeated irrigation using a large bore stomach tube and gastric hypothermia is then instituted. Complete evacuation of blood clots and other contents is important in permitting direct contact between the intragastric balloon and the stomach wall for maximum cooling effect. A small nasogastric tube is first replaced to serve as a monitor for bleeding after cooling is instituted. The intragastric balloon is then placed in the stomach and distended to a volume between 400 and 600 cc. and circulation of the chilled solution at 0 to +5 degrees centigrade is begun.

The cooling is normally continued until bleeding ceases and for 6-12 hours after its cessation. The balloon may be left in place for an additional 12-24 hours while one determines if bleeding should recur. If bleeding is not controlled after four or five intervals of cooling, the method is considered a failure and emergency surgical intervention is instituted.

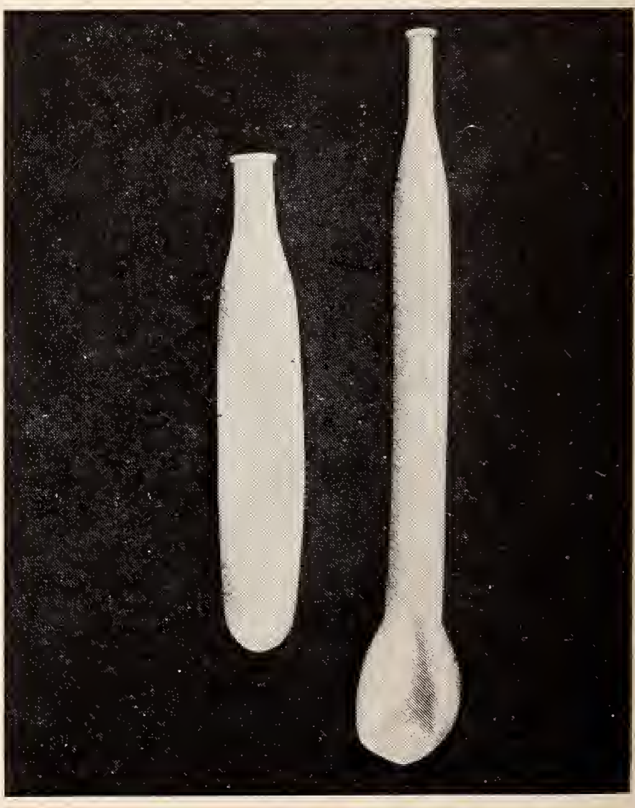

Figure 2

TABLE III
SUMMARY OF RESULTS OF ESOPHAGOGASTRIC HYPOTHERMIA IN MASSIVE UPPER GASTROINTESTINAL HEMORRHAGE

	Number of patients	Hemorrhage controlled	Average length of hypothermia	Death from other causes	Death from hemorrhage
Esophageal varices	1	1	9 hrs.	0	0
Gastric ulcer	7	7	29 hrs.	4	0
Duodenal ulcer	9	8	46.4 hrs.	2	1
Steroid ulcer	1	1	16.5 hrs.	0	0
Marginal ulcer	1	1	96 hrs.	0	0
Unknown etiology	1	1	18 hrs.	0	0

During the cooling procedure the physician has adequate opportunity to correct fluid, electrolyte and blood volume deficits. With these properly corrected the patient is in a better physiological state to tolerate the appropriate surgical therapy for the pathological state causing the hemorrhage. This is especially important in elderly or chronically ill patients.

Discussion

Gastric hypothermia has been shown to retard and virtually inhibit gastric digestion as shown experimentally by Wangensteen and his group[4]. This effect is produced primarily by (a) suppression of gastric secretion, (b) depression of peptic activity, and (c) diminution of gastric blood flow. The authors, like others[4], believe that these are the major mechanisms in controlling massive upper gastrointestinal hemorrhage by intragastric cooling.

This experience includes the use of intragastric hypothermia 23 times in 20 patients — 16 patients were treated in the Tucson VA Hospital and 4 in other Tucson hospitals. In general, active bleeding is controlled within two to four hours after institution of the gastric hypothermia. This is confirmed by the absence of fresh blood in the nasogastric drainage tube. Table III summarizes our overall experience with gastric hypothermia.

Upper gastrointestinal hemorrhage was controlled in 19 of the 20 cases presented. In one elderly patient, bleeding continued from a large duodenal ulcer in spite of 13.5 hours of continuous gastric hypothermia. This patient was not subjected to surgical treatment in view of his very poor physical condition. Death occurred in six other patients, however, such was caused by a variety of complications which preceded the use of hypothermia and not as a result of its failure to control hemorrhage. The period of cooling ranged from 3½ hours to 113 hours. The average age of these patients is 57 years, the youngest being 37 and the oldest 75. All cases reported have been massive bleeders not responding to the standard conservative regimen for massive upper gastrointestinal hemorrhage consisting of gastric lavage with iced saline, blood transfusions and fluid and electrolyte replacement. When these proved unsuccessful, gastric hypothermia was instituted. When necessary definitive surgery was performed, the patient was invariably in a better physiological state, tolerating the procedure well and having a smoother postoperative course. As the number of cases increase our enthusiasm for this adjunctive measure also increases. It must be emphasized that this procedure does not constitute definitive treatment for the cause of bleeding but rather an important adjunct in the management of massive upper gastrointestinal hemorrhage.

Summary

1. The effects of gastric hypothermia on the stomach and neighboring organs are briefly reviewed.

2. The safety and usefulness of this procedure in 20 cases have convinced the authors that it should be more freely used in the control of massive upper gastrointestinal hemorrhage.

3. The technique is simple, the equipment relatively inexpensive and the results gratifying.

4. In most cases gastric hypothermia is capable of converting an emergency operation to an elective procedure and thus significantly reducing morbidity and mortality in this group of patients.

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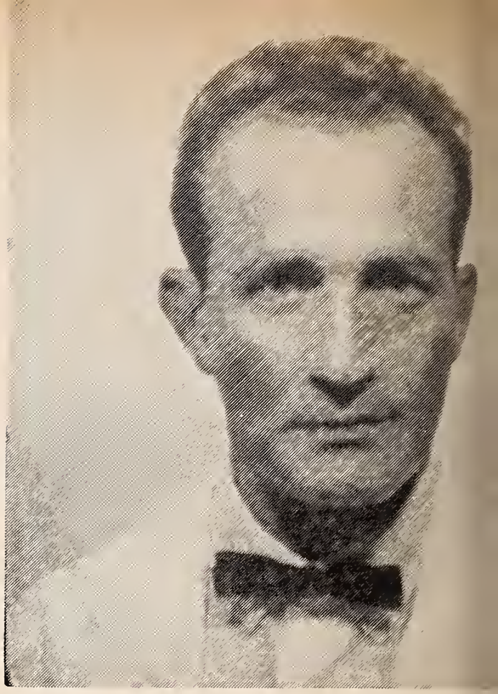

Melvin L. Cohen, M.D.

Guide to Pediatric Intravenous Therapy

A group of fundamental concepts which any physician, treating pediatric patients, should have at his fingertips.

INTRODUCTION

It is not the purpose of this paper to provide a substitute for basic knowledge in the physiology of fluid and electrolytes, nor a substitute for sound clinical judgment and careful observation. Rather it should be a starting point for the institution of intravenous therapy in the most common types of pediatric problems. Although twenty-four hour therapy is outlined, one should not be "committed" to this length of time if the patients' clinical conditions so warrant specific alterations in treatment.

Needless to say, the novice should not take it upon himself to utilize this guide to treat sick children without basic understanding of the normal and abnormal physiological principles. Nevertheless, there are a large number of physicians, well trained and capable, who find it necessary to administer intravenous fluids infrequently enough so as to make impossible the rapid, accurate decisions for fluid therapy under urgent or semi-urgent situations. The well trained specialist in fluid therapy is not always immediately available when time may be of the essence.

This author has not performed any of the original investigation necessary for the estimation of maintenance and deficit requirements. Theoretical and investigative considerations will be presented at a minimum, and the reader is referred to the bibliography for the original publications written by experts in the field.

Your attention is drawn to the appendix of this article where the most popular intravenous solutions are listed, with their respective electrolyte concentrations. In addition, concentrated electrolyte solutions presently on the market and readily available are listed for quick reference. For practical purposes the volume of water added when these electrolyte concentrates are used is so small that one need not consider it in overall therapy.

In an effort to provide a rapid, ready reference as an aid for interns and residents in a

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teaching hospital, a simple "slide rule" guide has been devised which summarizes the text of this paper for intravenous therapy in the most common pediatric problems (Figure 1).

General Considerations

Fortunately renal compensatory mechanisms generally allow for errors of 20-25% or more in the estimation of fluids and electrolytes, provided kidney function is adequate. Systems based on body weight, surface area and caloric expenditure have all been utilized successfully but it is apparent that weight alone cannot be used as a guide without allowing for the proportionately higher water and electrolyte needs per unit of body weight in infants and children when compared with larger children and adults.

The methods used in computing the values on the slide rule aid will be briefly reviewed on the following pages. Estimation of maintenance needs is largely based on caloric expenditure, and dehydration needs on body weight. In each condition, both have been combined to give the 24 hour requirements. The physician may utilize either the "estimated 24 hour therapy" guide and use the solutions he so desires (see appendix) or the "Treatment Guide" for accomplishing the same approximate end results.

Shock:

In general, plasma, blood, or expanders are not given initially. After initial hydration, however, approximately 10 ml/Kg may be given when indicated in addition to the recommended 24 hour requirements listed. (The slide rule does not include the therapy for shock.)

Potassium:

Intravenous potassium concentrations should not exceed 4 mEq/100 ml (40 mEq/liter). Potassium is added as a KCl concentrate unless excessive chloride is contraindicated as in hypertonic dehydration. In the latter case a potassium acetate concentrate is used. Total potassium deficits are not given because replacement of total potassium deficits along with maintenance requirements are generally not possible in 24 hours. However, a safe potassium concentration is suggested for administration after initial hydration and after renal function is established.

Newborn:

During the first week of life fluid and electrolyte needs are unlike older infants. Therefore this guide to therapy should not be used when treating newborns.

Rate of Flow:

15 standard drops = 1 ml
60 microdrops = 1 ml
4 microdrops = 1 standard drop
microdrops/min. = ml./hr.

By using the "microdrop" apparatus, orders can readily be written as ml./hr. with little chance of error.

MAINTENANCE REQUIREMENTS

Maintenance requirements are based on caloric expenditure following the formula derived by Holliday and Segar[1] as follows:

Body weight 0-10 Kg.	100 Cal./Kg.
Body weight 10-20 Kg.	1000 Cal. plus 50 Cal. for each Kg. over 10.
Body weight over 20 Kg.	1500 Cal. plus 20 Cal. for each Kg. over 20.

These estimates of caloric expenditure are based on normal renal and insensible water losses and may be altered by body temperature, thyroid function, environmental temperature and humidity, ectodermal defects, renal function, solute load and other metabolic abnormalities. However, for the majority of acutely dehydrated infants and children without other apparent abnormalities and near normal renal function, these estimates are satisfactory for sick patients under circumstances above basal conditions (bed patient) but below the requirements estimated for normal living conditions. Approximately 7% may be added for each degree Fahrenheit of fever.

Darrow[2] estimates caloric expenditure at lower values than stated above, but also estimates water requirements at higher values/100 Cal. For practical purposes the final values per 24 hours are little different.

Estimates of water requirements are equal to the number of Calories, Na 3 mEq/100 Cal, K and Cl each 2 mEq/100 Cal.

The choice of solutions for maintenance is an individual decision. Glucose water with added KCL and Na lactate (below) is perfectly adequate. Prepared solutions, such as Isolyte P (Baxter) or Electrolyte #48 (Cutter) are even simpler.

Example: Body weight 25 kg.

Estimated 24 hour therapy

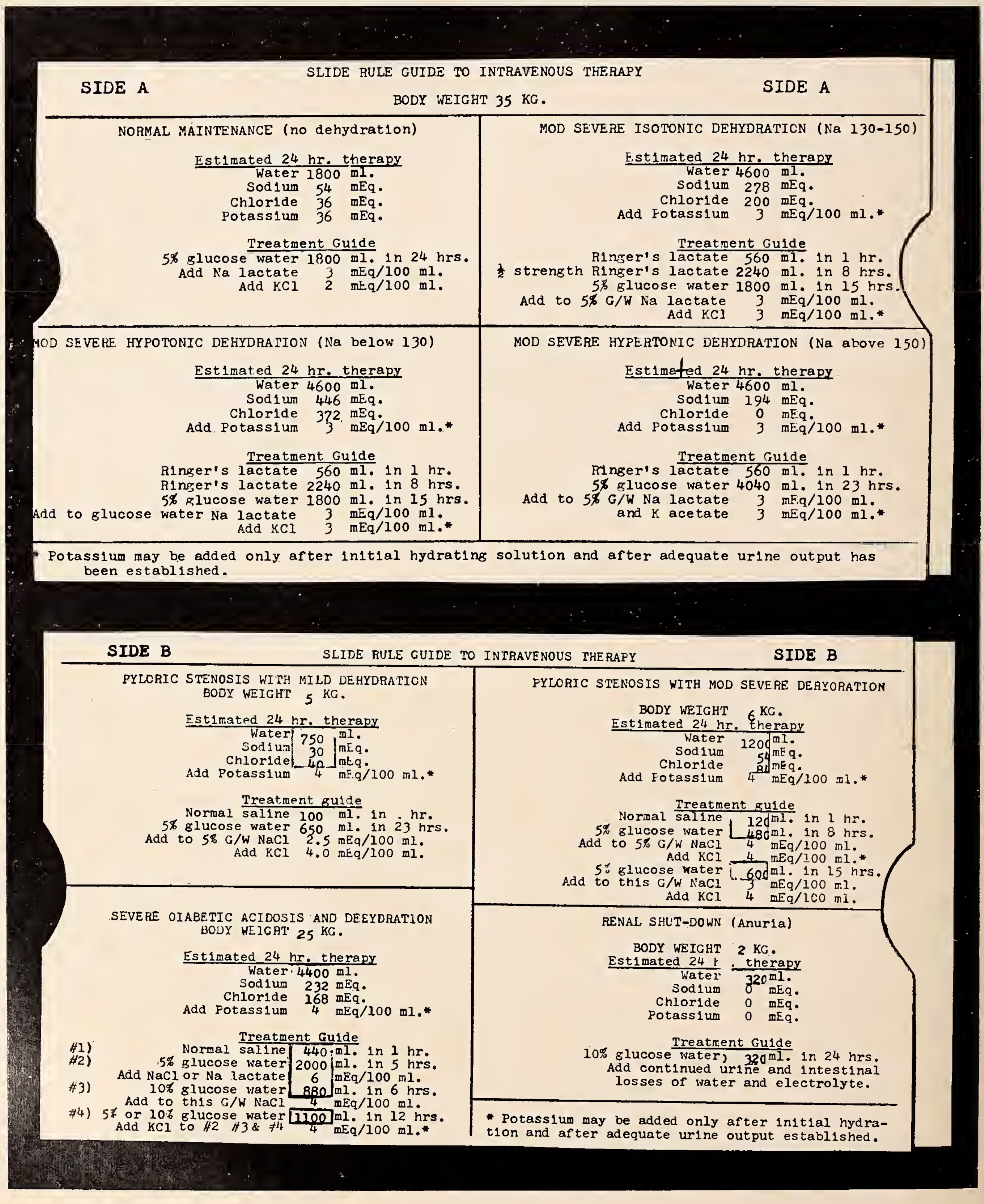
Water	Na	Cl	K
1600	48	32	32

Treatment Guide

1600 ml 5% G/W in 24 hrs.
Add Na Lactate 3 mEq/100 ml
Add KCl 2 mEq/100 ml

Isotonic Dehydration

In infants and small children dehydration is not generally clinically detectable before 5% of the body weight in water is lost (50 ml/Kg). This amount of dehydration can most often be corrected without intravenous therapy. Dehydration of more than 15% is not compatible with life. Moderately severe dehydration can be considered about 10% reduction in body weight due to loss of water. This latter is the most commonly encountered in the intravenous treatment of dehydration.



SIDE A SLIDE RULE GUIDE TO INTRAVENOUS THERAPY SIDE A

BODY WEIGHT 35 KG.

NORMAL MAINTENANCE (no dehydration)

Estimated 24 hr. therapy

Water	1800	ml.
Sodium	54	mEq.
Chloride	36	mEq.
Potassium	36	mEq.

Treatment Guide

5% glucose water	1800	ml. in 24 hrs.
Add Na lactate	3	mEq/100 ml.
Add KCl	2	mEq/100 ml.

MOD SEVERE ISOTONIC DEHYDRATION (Na 130-150)

Estimated 24 hr. therapy

Water	4600	ml.
Sodium	278	mEq.
Chloride	200	mEq.
Add Potassium	3	mEq/100 ml.*

Treatment Guide

Ringer's lactate	560	ml. in 1 hr.
½ strength Ringer's lactate	2240	ml. in 8 hrs.
5% glucose water	1800	ml. in 15 hrs.
Add to 5% G/W Na lactate	3	mEq/100 ml.
Add KCl	3	mEq/100 ml.*

MOD SEVERE HYPOTONIC DEHYDRATION (Na below 130)

Estimated 24 hr. therapy

Water	4600	ml.
Sodium	446	mEq.
Chloride	372	mEq.
Add Potassium	3	mEq/100 ml.*

Treatment Guide

Ringer's lactate	560	ml. in 1 hr.
Ringer's lactate	2240	ml. in 8 hrs.
5% glucose water	1800	ml. in 15 hrs.
Add to glucose water Na lactate	3	mEq/100 ml.
Add KCl	3	mEq/100 ml.*

MOD SEVERE HYPERTONIC DEHYDRATION (Na above 150)

Estimated 24 hr. therapy

Water	4600	ml.
Sodium	194	mEq.
Chloride	0	mEq.
Add Potassium	3	mEq/100 ml.*

Treatment Guide

Ringer's lactate	560	ml. in 1 hr.
5% glucose water	4040	ml. in 23 hrs.
Add to 5% G/W Na lactate	3	mEq/100 ml.
and K acetate	3	mEq/100 ml.*

* Potassium may be added only after initial hydrating solution and after adequate urine output has been established.

SIDE B SLIDE RULE GUIDE TO INTRAVENOUS THERAPY SIDE B

PYLORIC STENOSIS WITH MILD DEHYDRATION
BODY WEIGHT 5 KG.

Estimated 24 hr. therapy

Water	750	ml.
Sodium	30	mEq.
Chloride	40	mEq.
Add Potassium	4	mEq/100 ml.*

Treatment guide

Normal saline	100	ml. in . hr.
5% glucose water	650	ml. in 23 hrs.
Add to 5% G/W NaCl	2.5	mEq/100 ml.
Add KCl	4.0	mEq/100 ml.

SEVERE OIABETIC ACIDOSIS AND DEEYDRATION
BODY WEIGHT 25 KG.

Estimated 24 hr. therapy

Water	4400	ml.
Sodium	232	mEq.
Chloride	168	mEq.
Add Potassium	4	mEq/100 ml.*

Treatment Guide

#1)	Normal saline	440	ml. in 1 hr.
#2)	5% glucose water	2000	ml. in 5 hrs.
	Add NaCl or Na lactate	6	mEq/100 ml.
#3)	10% glucose water	880	ml. in 6 hrs.
	Add to this G/W NaCl	4	mEq/100 ml.
#4)	5% or 10% glucose water	1100	ml. in 12 hrs.
	Add KCl to #2 #3 & #4	4	mEq/100 ml.*

PYLORIC STENOSIS WITH MOD SEVERE DERYORATION

BODY WEIGHT 6 KG.

Estimated 24 hr. therapy

Water	1200	ml.
Sodium	54	mEq.
Chloride	81	mEq.
Add Potassium	4	mEq/100 ml.*

Treatment guide

Normal saline	120	ml. in 1 hr.
5% glucose water	480	ml. in 8 hrs.
Add to 5% G/W NaCl	4	mEq/100 ml.
Add KCl	4	mEq/100 ml.*
5% glucose water	600	ml. in 15 hrs.
Add to this G/W NaCl	3	mEq/100 ml.
Add KCl	4	mEq/100 ml.

RENAL SHUT-DOWN (Anuria)

BODY WEIGHT 2 KG.

Estimated 24 hr. therapy

Water	320	ml.
Sodium	0	mEq.
Chloride	0	mEq.
Potassium	0	mEq.

Treatment Guide

10% glucose water)	320	ml. in 24 hrs.

Add continued urine and intestinal losses of water and electrolyte.

* Potassium may be added only after initial hydration and after adequate urine output established.

In adults moderately severe dehydration is clinically evident when about 7.5% of the body weight in water is lost. This is understandable because a smaller percentage of the total body weight in adults is water. Thus a 10% loss in infants is comparable to a 7.5% loss in adults when one considers the percentage of total body water lost.[3]

The figures derived for the estimation of deficit fluids, therefore, are based on a 10% loss in infants and gradually reduced to a 7.5% loss in the 50 Kg. patient.

"Isotonic" dehydration is reflected by near normal serum sodium levels and could be termed "isonatremic" for this discussion. Certainly the sodium level is normal in most diarrheal dehydration patients, when chloride is frequently high, CO_2 low and potassium either high, normal or low. The treatment considered here assumes the serum sodium is above 130 mEq/liter and below 150 mEq/liter. It also assumes a moderate or severe acidosis exists, and, therefore, imperically corrects this acidosis by the addition of lactate in amounts to raise the CO_2 about 5 mEq/liter (based on 0.7 mEq of lactate/Kg/mEq). The potassium guide assumes a normal or low serum level and is added in what is considered safe concentrations.

Estimates of sodium and chloride deficits in isotonic dehydration are based on balance studies and sound physiological principles and are approximately 8 mEq and 6 mEq per 100 cc of deficit water respectively. Although potassium losses are generally equal to or greater than chloride losses, replacement of the total potassium deficits are not possible in the first 24 hours because it is withheld from initial hydration, is not added until after adequate renal function is established, and is limited to concentrations below 40 mEq/liter. For these reasons the total 24 hour potassium requirements are not stated.

The distribution of the total 24 hour therapy, as described under "Treatment Guide" below allows for initial hydration the first hour, total deficit water and electrolytes by eight hours, and the balance (maintenance) by 24 hours. This distribution is recommended regardless of choice of solutions. This may be accomplished by giving one fifth the deficit volume as Ringer's Lactate for initial hydration the first hour, the remaining deficit as Half Strength Ringer's Lactate by eight hours, and the remainder (maintenance) by 24 hours.

Using the above considerations and adding the maintenance requirements previously described, the following examples are representative.

Example 1: Body weight 5 Kg, moderately severe isotonic dehydration (10%).

Estimated 24 hour therapy

	Water	Na	Cl
Maintenance	500	15	10
Dehydration	500	40	30
Totals	1000	55	40

Treatment Guide

100 ml Ringer's Lactate in 1 hr.

400 ml Half Strength Ringer's Lactate in 8 hrs.

500 ml 5% G/W in 15 hrs.

Add to G/W Na Lactate and KCl each

Water Na Cl

3 mEq/100 ml.

Example 2: Body weight 50 Kg., moderately severe isotonic dehydration (7.5%)

Estimated 24 hour therapy

Maintenance	2100	63	42
Dehydration	3750	300	225
Totals	5850	363	267

Treatment Guide

750 ml Ringer's Lactate in 1 hr.

3000 ml Half Strength Ringer's Lactate in 8 hrs.

2100 ml 5% G/W in 15 hrs.

Add to G/W Na Lactate and KCl each 3 mEq/100 ml.

Should it be necessary to treat a patient with intravenous fluids who is considered only "mildly" dehydrated, half the total dehydration water and electrolyte values stated above would suffice.

Hypotonic Dehydration

Hypotonic dehydration here is defined as hyponatremic dehydration. Although the diagnosis is based on the serum sodium concentration, the low sodium (below 130 mEq/liter) reflects generally a state of hypotonicity, and, therefore, is an index of solute concentration in the body water.

The total water required to treat this condition is based on the same principles described in "isotonic" dehydration. However, to the estimated sodium and chloride deficits, an additional amount of NaCl is added to raise the serum sodium to a more normal level.

Since water is freely diffusable between the intracellular and extracellular compartments, and since for practical purposes the body water can be estimated at 60% of the body weight, the pure sodium deficit per kilogram can be approximated according to the formula 0.6 times the number of mEq. Na is depressed per liter.[5] This may seem inappropriate to base the deficit of a largely extracellularcation on total body water, but one must remember that the level of serum sodium is measured after the redistribution of total body water and solute. For practical purposes, regardless of how low the serum sodium may be, under most conditions of dehydration (water intoxication excluded), a desirable increase in the serum level over the first 24 hours would be 8-10 mEq/liter. Thus the amount of additional NaCl to be added to usual maintenance and dehydration needs per kilogram can be derived from the formula 0.6 X 10 or 6 mEq. The resulting deficit needs are not unlike those outlined by Brusilow and Cooke.[3]

Again the distribution (Treatment Guide) would provide for initial hydration and total deficits by eight hours, and the balance (maintenance) by 24 hours. This can be accomplished by substituting Ringer's Lactate for Half Strength Ringer's Lactate in the scheme outlined in "Isotonic Dehydration."

Example: Body weight 5 Kg, moderately severe dehydration, serum Na 120 mEq/liter.

Estimated 24 hour therapy

	Water	Na	Cl
Maintenance	500	15	10
Dehydration	500	40	30
Pure Na deficit		30	30
Totals	1000	85	70

Treatment Guide

100 ml Ringer's Lactate in 1 hr.
500 ml Ringer's Lactate in 8 hrs.
500 ml 5% G/W in 15 hrs.
Add Na Lactate and KCl each 3 mEq/100 ml.

For "mild" dehydration, half the estimates of dehydration water and electrolytes may be used, but the pure Na deficits would be unchanged.

In hyponatremic states of abrupt onset, such as in water intoxication, especially when associated with a convulsive state, the sodium deficit can be replaced more rapidly using hypertonic (3%) saline.

Hypertonic Dehydration

Hypertonic dehydration infers that the serum sodium concentration is high (above 150 mEq/liter), and reflects a state of hypertonicity, since the hypernatremia is an index of a high solute concentration in the body water.

Although the total water required to treat this condition is the same or perhaps less than in "isotonic" dehydration, the sodium replacement is less. Body chlorides in hypernatremia are usually in excess and need not be considered in replacement.[6] The assumption is made that a "pure water deficit" exists; that is, a deficit of water without electrolyte. The pure water deficit can be estimated according to the formula 4 ml x weight in Kg. x mEq serum Na is above normal, derived by Holliday.[5] Since rapid reductions in serum sodium levels may produce serious complications, it is generally never wise to attempt a reduction of more than 7-10 mEq in 24 hours. Thus a volume of water equal to 4 x Kg x 10 should be given without electrolytes in order to drop sodium concentrations at a safe rate. The resulting deficit fluid and electrolytes are not unlike those outlined by Brusilow and Cooke[3] and somewhat above those estimated by Harrison and Fineberg.[7]

Because hypernatremia can only be suggested clinically, initial hydration as in other dehydration states can be given while awaiting the laboratory confirmation. The balance of the fluid and electrolytes are then spread evenly over the remaining portion of the 24 hour period in order to effect a safe rate of fall in serum sodium. Naturally, frequent clinical and laboratory reevaluations are necessary for more specific alterations in therapy.

Example: Body weight 5 Kg. moderately severe dehydration, serum Na 160 mEq/liter.

Estimated 24 hour therapy

	Water		Na
Maintenance	500		15
Dehydration	500	(500)	
Pure water deficit		(–200)	
		(300)	24
Totals	1000		39

Treatment Guide

100 ml Ringer's Lactate in 1 hr.

900 ml 5% G/W in 23 hours.

Add to G/W Na Lactate and K Acetate each 3 mEq/100 ml.

Pyloric Stenosis

Dehydration occurring from vomiting alone produces specific differences in the body's chemical equilibrium when compared with other dehydrated states. Repair of deficits is often necessary before surgery is undertaken. With continued loss of gastric juices, acid (anion) is lost out of proportion to base (cation). The result is a metabolic alkalosis. With contraction of the extracellular fluid compartment, there is a strong stimulus for renal tubular reabsorption of sodium, and with chloride depletion, there is a strong stimulus for potassium excretion. The end result is, therefore, an alkalosis with low serum chloride levels, potassium deficits in excess of sodium, and a high serum CO_2 level.

Correction of deficits may require more than 24 hours in severely dehydrated infants. Estimation of deficit water is the same as that described in "isotonic dehydration"; that is, 5% of body weight for mild and 10% for moderately severe dehydration. For each 100 ml of water deficit, sodium, chloride and potassium deficits are approximately 6 mEq., 12 mEq. and 12 mEq., respectively.[5] This chloride replacement should effect a safe rate of return of serum chloride concentration, even though repeat laboratory studies may dictate continuation of therapy after 24 hours. Again the total water and sodium deficit is replaced the first 8 hours.

The total potassium deficit can never be replaced in the first day of therapy, and often not even before surgery is performed. After initial hydration and renal function is established however, potassium is added at maximum allowable concentrations (4 mEq/100 ml). NaCl and KCl need be the only electrolytes in the total therapy.

Example: Weight 5 Kg. moderately severe dehydration from pyloric stenosis.

Estimated 24 hour therapy

	Water	Na	Cl	K
Maintenance	500	15	10	10
Dehydration	500	30	60	60
Totals	1000	45	70	70

Treatment Guide

100 ml Normal saline in 1 hr.

400 ml 5% G/W in 8 hrs.

Add NaCl and KCl each 4 mEq/100 cc

500 ml 5% G/W in 15 hrs.

Add NaCl 3 mEq/100 ml and KCl 4 mEq/100 ml.

Should mild dehydration (5%) be present, half the above stated deficits are replaced along with the usual maintenance.

Example: Weight 5 Kg., mild dehydration from pyloric stenosis:

Estimated 24 hour therapy

	Water	Na	Cl	K
Maintenance	500	15	10	10
Dehydration	250	15	30	30
Totals	750	30	40	40

Treatment Guide

100 ml Normal Saline in 1 hr.

650 ml 5% G/W in 23 hrs.

Add to G/W NaCl 2.5 mEq/100 ml and KCl 4.0 mEq/100 ml.

Diabetic Acidosis

The problems occurring in dehydration due to diabetes mellitus must take into account large deficits of water and electrolyte. A safe estimate of water deficit in most cases is 8% of the body weight. To this is added Na 8 mEq. and Cl 6 mEq. per 100 ml. Potassium deficits approximate the sodium deficits but are impossible to correct totally until after oral intake has been re-established, even though potassium is administered in maximum allowable concentrations after initial hydration and after renal function has been established.

Maintenance needs in diabetes can be assumed greater, perhaps 1½ times, than the water and electrolyte needs as outlined in non-diabetic states. Needless to say, renal solute diuresis is the contributing factor.

An attempt is made to provide maximum water (75%) by twelve hours, half the first four hours. All the sodium is given in the first twelve hours, probably 75% in the first six hours. Glucose containing solutions may safely be started after initial hydration, and potassium as soon as renal function has been established. After six hours it may be advisable to increase the glucose intravenously to replace glycogen stores. One strives for oral liquids by six to twelve hours, with the balance of intravenous fluids influenced by the oral intake.

Acidosis correction with alkali is advised by some, and ill-advised by others.[8,9] Insulin will allow metabolism of ketone bodies and, in effect, spontaneously correct acidosis. Alkali therapy is generally reserved for those patients with a significantly depressed serum pH. It is probably safe to withhold alkali if the serum CO_2 is above 10 mEq/liter, and probably safe to add alkali below this level. The amount administered should elevate the serum CO^2 by no greater than 5 mEq/liter. Sodium lactate or sodium bicarbonate 0.7 mEq/Kg given imperically should elevate the serum CO^2 by 1 mEq. An alternate method would be to add alkali to correct the "base deficit" by no more than 10 mEq/liter, using the formula 0.3 mEq/Kg/mEq of base deficit correction desired.

The total water and electrolyte as outlined above is suggested by Holliday and Segar, and its distribution over the twenty four hours is not unlike that recommended by Guest and West.[10]

Mention is not made of the other important aspects of diabetic management, such as insulin therapy with which the reader should be thoroughly familiar.

Example: Body weight 10 Kg, severe diabetic acidosis.

Estimated 24 hour therapy

	Water	Sodium	Chloride
Maintenance	1500	45	30
Deficits	800	64	48
Totals	2300	109	78

Treatment Guide

% of total water	
10%	230 ml. Normal saline in 1 hr.
45%	1000 ml. 5% G/W in 5 hrs. Add NaCl (or Na Lactate) 5 mEq/100 ml.
20%	460 ml. 10% G/W in 6 hrs. Add NaC1 4 mEq/100 ml.
25%	575 ml. 10% G/W in 12 hrs. Add KC1 4 mEq/100 ml to all above fluids after voiding.

Renal Shut-Down

Consideration of total water volume in the anuric or severely oliguric patient is given here, and no attempt is made to cover the problems arising in the pre-oliguric phase of lower nephron nephrosis or the post-oliguric (diuretic) phase of renal diseases. The basic guidelines have been set forth by Holliday and Segar and are also based on caloric expenditure. The water requirement in anuria is estimated at about 20

APPENDIX

Common Intravenous Solutions

	Concentrations in mEq/ per liter			
	Na	K	Cl	HCO_3 (or precursor)
Normal Saline (0.9%)	154		154	
Half Normal Saline (0.45%)	77		77	
3% Saline	513		513	
5% Saline	855		855	
Ringer's Lactate (Hartmann's)	130	4	109	28
Half Strength Ringer's Lactate	65	2	55	14
1/6 Molar Lactate	167			167
Ringer's Injection	147	4	155	
Lactated Potassic Saline (Darrow's)	121	35	103	53
Talbot-Butler's Solution	40	35	40	20
Isolyte M (Baxter)				
Electrolyte #75 (Cutter)				
Pediatric Maintenance	24	20	22	23
Isolyte P (Baxter)				
Electrolyte #48 (Cutter)				
Gastric Replacement	63	17	150	
Isolyte G (Baxter)				
Electrolyte #3 (Cutter)				
Lower Intestinal Replacement	140	10	103	55
Isolyte E (Baxter)				
Polysal (Cutter)				

Concentrated Electrolyte Solutions (30 ml. vials)

	Baxter	Cutter
NaCl	3 mEq./ml.	4 mEq./ml.
Na Lactate	3 mEq./ml.	4 mEq./ml.
KCl	3 mEq./ml.	2 mEq./ml.
K Acetate	—	2 mEq./ml.
NH_4Cl	3 mEq./ml.	4 mEq./ml.

ml/1000 Calories. This amount should replace insensible losses after allowing for the water produced by the oxidation of fats, carbohydrates and proteins and the water produced by the catabolism of tissue cells. When calculated on a square meter basis, Weil and Wallace[11] arrive at the same approximate water volume. To this amount continuing water and electrolyte losses by way of the kidneys and gastrointestinal tract are added based on the previous 24 hour output. Significant alterations in serum potassium, sodium and calcium, as well as azotemia and dialysis are not considered here.

Example: Body weight 30 Kg, no continued intestinal losses, total anuria (1700 Calories).

20 X 17 = Water/24 hours = 340 ml. (as 10% G/W)

See Appendix for solutions available for gastric and lower intestinal fluid replacement.

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Precautions: Before prescribing, carefully select patients, avoiding those responsive to routine measures as well as contraindicated patients. Obtain a detailed history and a complete physical and laboratory examination, including a blood count. The patient should not exceed recommended dosage, should be closely supervised and should be warned to discontinue the drug and report immediately if fever, sore throat, or mouth lesions (symptoms of blood dyscrasia); sudden weight gain (water retention); skin reactions; black or tarry stools or other evidence of intestinal hemorrhage occur. Make regular blood counts. Discontinue the drug immediately and institute countermeasures if the white count changes significantly, granulocytes decrease, or immature forms appear. Use greater care in the elderly and in hypertensives.

Adverse Reactions: The most common are nausea, edema and drug rash. Swelling of the ankles or face may be minimized by withholding dietary salt, reduction in dosage or use of diuretics. In elderly patients and in those with hypertension the drug should be discontinued with the appearance of edema. The drug has been associated with peptic ulcer and may reactivate a latent peptic ulcer. The patient should be instructed to take doses immediately before or after meals or with milk to minimize gastric upset. Mild drug rashes frequently subside with reduction of dosage. However, rash accompanied by fever or other systemic reactions usually requires withholding medication. Purpuric rash has also been reported. Agranulocytosis, exfoliative dermatitis, Stevens-Johnson syndrome, or a generalized allergic reaction similar to serum sickness may occur and require permanent withdrawal of medication. Stomatitis, salivary gland enlargement, vomiting, vertigo and languor may occur. Leukemia and leukemoid reactions have been reported. While not definitely attributable to the drug, a causal relationship cannot be excluded. Thrombocytopenic purpura and aplastic anemia may occur. Confusional states, agitation, headache, blurred vision, optic neuritis and transient hearing loss have been reported, as have hyperglycemia, hepatitis, jaundice, and several cases of anuria and hematuria. With long-term use, reversible thyroid hyperplasia may occur infrequently. Moderate lowering of the red cell count due to hemodilution may occur.

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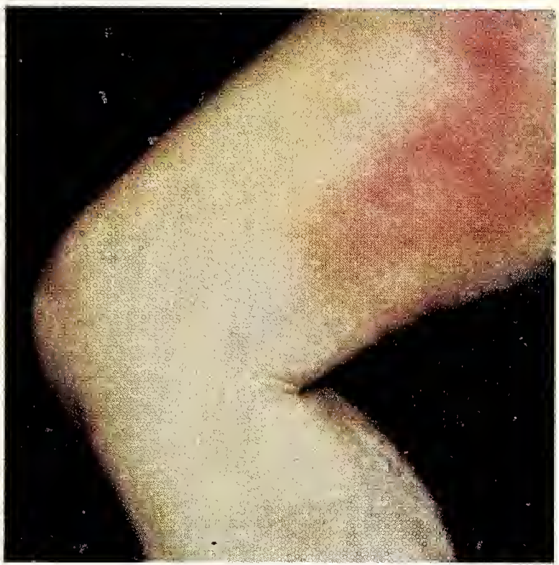
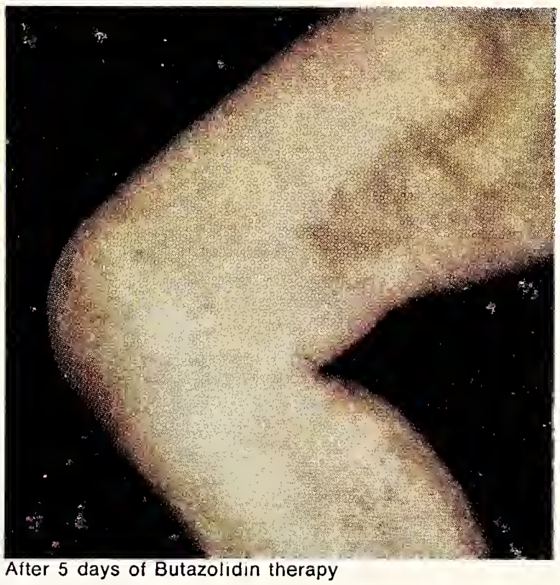
*Stein, I.D.: Presented at the American Academy of General Practice, Dallas, Sept. 1967.

For complete details, please see full prescribing information.

it used to take weeks


Acute superficial thrombophlebitis before treatment


After 5 days of Butazolidin therapy

In acute superficial thrombophlebitis, patients were usually bedfast for 2 to 4 weeks, tying up hospital beds, requiring costly nursing care and time-consuming procedures such as warm soaks and packs.

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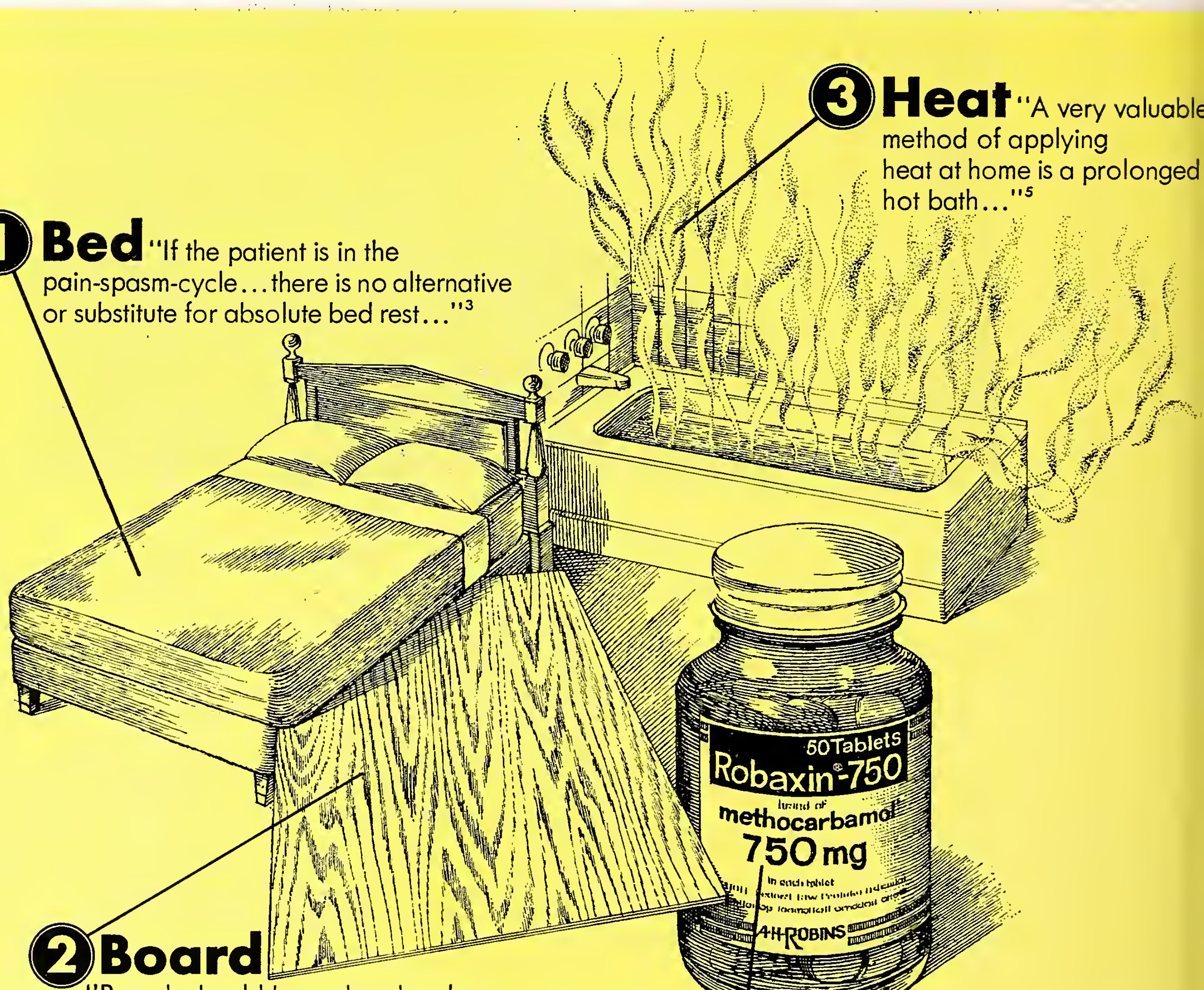

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Dr. Dysterheft

The PAC movement has been an important ancillary activity of organized medicine for over eight years, and since 1961 an increasing number of members of state associations and the American Medical Association are involved in PAC activity, more so than in any other single program. Sorry to say, Arizona is far down the list in percentile participation. This year a mere handful of the more than fifteen hundred state members belong to ARMPAC.

Recognizing this frustrating condition, ARMA's Board of Directors recently, in reviewing the total picture, passed a motion to recommend to the county societies that in forthcoming billing for AMA-ARMA-County dues an additional billing be made for members' voluntary contribution to ARMPAC ($20.00 for the Society member plus $20.00 for his wife). It was noted that the entire bill could be paid in one check. The ARMPAC dues are, of course, not deductible, but neither is this combination billing an infringement upon ARMA's IRS tax deductible status.

It is hoped that the individual county societies will see their way clear to implement this resolution. In those states wherein this method is used, and there are presently twenty-six, membership has sky rocketed.

ARMPAC funds in no small way have in recent years changed the complexion of the representation in Congress with the election of many representatives and senators with state PAC support. It has been repeatedly stated that the PAC movement has gained for medicine precious time, has brought physicians back to the mainstream of political thought and participation, stimulated and generated sound analysis of the candidate's credentials, but most important, has effectively placed in the Congress of the United States individuals sympathetic and friendly to organized medicine. When the elections are over and Congress has convened it must be remembered that the problem of asking it to act wisely on health matters is the responsibility of organized medicine.

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Reprinted from the November, 1967 issue of The Reader's Digest

Regional Medical Programs — Part II

As a result of the views that were expressed during Public Hearings held on the original Regional Medical *Centers* legislation, the concept of *Centers* was eliminated. Instead, the concept of a *network* of health-related personnel, facilities, and agencies was substituted. This revision was accepted immediately by the American Medical Association and this change then became the primary thrust of the new Bill. Furthermore, by focusing on the practicing physician as the active agent in the success of the program, rather than as a passive instrument between a medical *center* and the patient, it was not only possible to protect the basic principle of the American system of distribution of health services, but seemingly to strengthen it at the same time.

Thus, in its official version, Public Law 89-239, the Regional Medical Program for Cancer, Heart Disease and Stroke became an instrument through which every person working in the health professions may find himself linked, and in communication with, his colleagues and co-workers elsewhere in the chain. New and useful information can be disseminated rapidly throughout the network; models and demonstrations can be set up and information about them relayed to interested persons and agencies in a given area; instantaneous, two-way communications between practitioners and appropriate consultants will be possible — all to the ultimate benefit of the patient who may be afflicted with cancer, heart disease or stroke.

Not enough time has gone by since the new law has been passed for anyone to take a firm position on its long-range meaning or implications. However, there is at least some evidence to believe that its provisions will have three important "side effects" which may one day outstrip in importance the primary reasons for which the legislation was passed. First, prior to the passage of this legislation, almost all federal funding followed certain traditional lines; i.e.: it went to states and/or political subdivisions, to institutions, or to programs that are categorical or individual within institutions or communities. In the instance of the Regional Medical Programs it has been left to the discretion of those who are involved as to what shall constitute a "region". In other words, a region may be less than, more than, or the exact equivalent of a recognizable political boundry such as a state. The meaning of this technique of financing a federal program is not clear yet. We are, of course, hopeful that major contradictions will not be involved by this route of financing, although some other major health programs (notably Public Law 89-749 — the Comprehensive Health Planning Bill) do structure federal financing along recognizable political jurisdictional lines. This may pose critical problems to the teams involved in their implementation.

Second, in the same way that the Morrill Act of Civil War days established the machinery by which the Land Grant Universities came into existence to provide both education *and service* to the people (primarily through agricultural experiment stations and extension divisions) the Regional Medical Programs Act designates the University as the agency around which a Regional Medical Program must be structured. Since many people hold the view that society is best served by the University when it maintains an isolated position from its surrounding community, the assignment to the University of responsibility for demonstrations, off-campus extension work and programs directly related to the end point of good health care represents a very substantial change.

Third, the Regional Medical Program Act will, for the first time, require a high level of collaboration and cooperation among health agencies and health professionals of different philosophies, in pursuing the objectives of the legislation. By law, the membership of the Regional Advisory Group that oversees each Regional Program must include representation from medicine, nursing, dentistry, and osteopathy, along with appropriate lay representation. No similar step has been taken in the past in a program that was this important.

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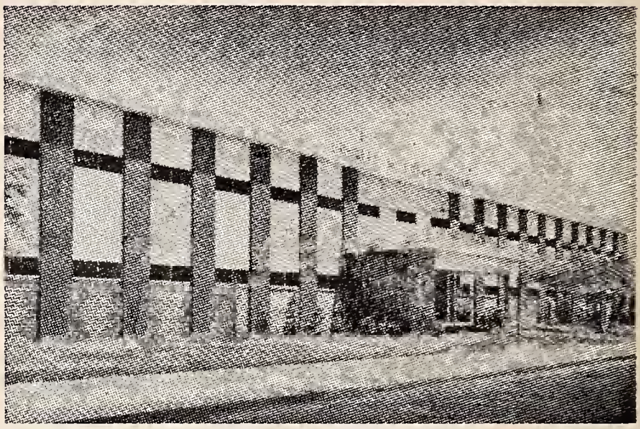

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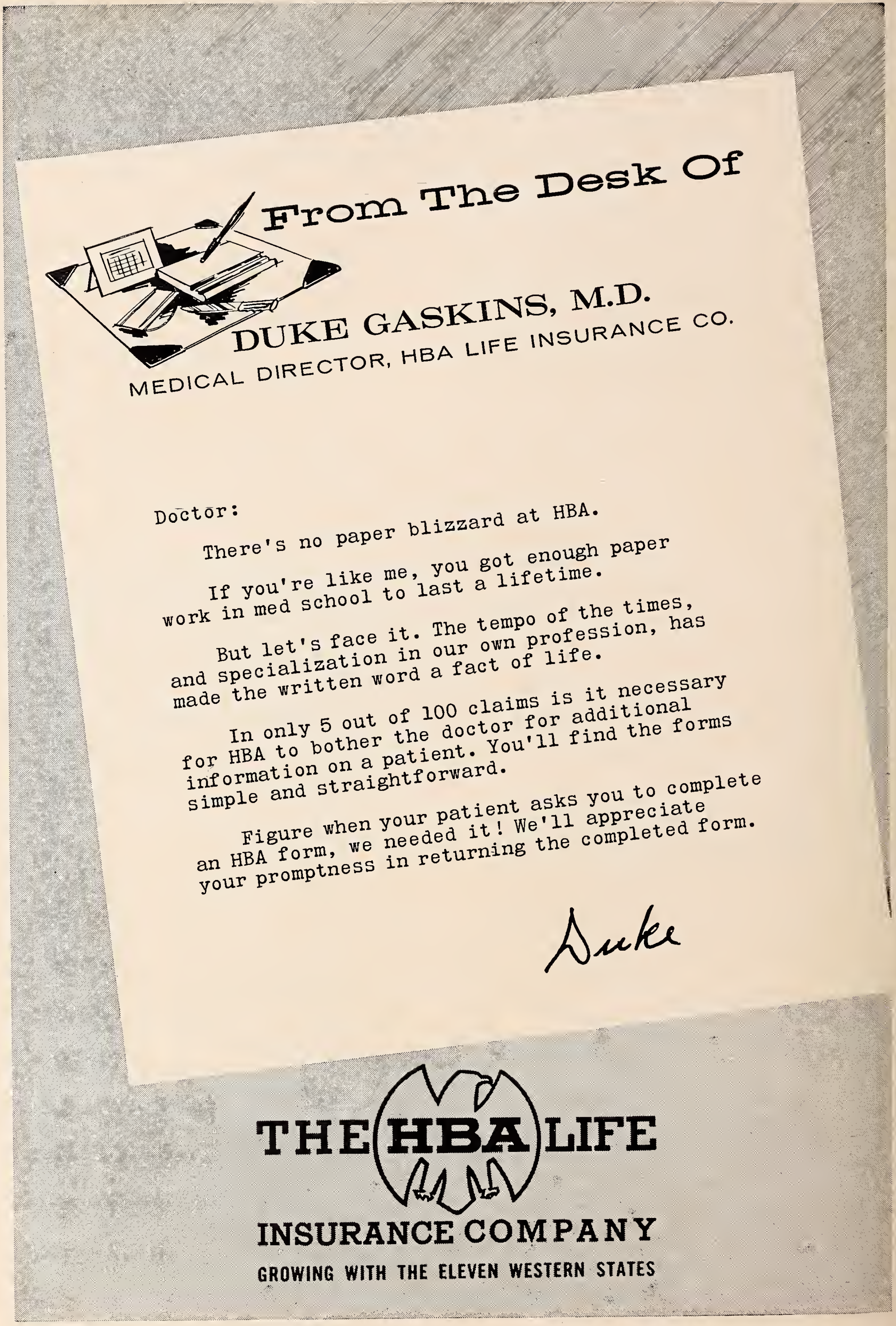

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To Be A Judge of Character

Part II

William B. McGrath, M.D.

Knowledge of the personality disorders* ought not remain inert like a crystal ball on the desk. An individual who repeatedly finds himself at odds with his environment may finally come around to wonder what is wrong. No one is in a better position to tell him than his doctor. The patient and the doctor can be completely candid. Simply by making a correct diagnosis, by recognizing the pattern or trait, the physician will commence to be very helpful to the patient. For the persistence of the disorder is often due to the fact that the patient is surprisingly unaware that he has it!

A parenthetical point must however be emphasized. One doesn't eavesdrop on a private conversation or read another person's mail. One doesn't open the door uninvited into someone's bedroom or bath. To "psychoanalyze" a person (or personage!) without being asked is sophomoric and always offensive.

Now it takes a psychiatrist, given time, to scrape off the garish paint of over-compensations or put a crow-bar to the rotting beams of identification. But the specialist's "architectural" cognizance is usually not required for the detection of a personality disorder. In everyday situations and especially when affected by low blood sugar or alcohol or fatigue or "cabin fever," the aggressive will act aggressively, the schizoid will neither give nor take, and the paranoid will look for someone to blame.

A patient, for example, invariably arrives ten minutes late and in a flurry of breathless excuses. This may betray a simple inadequacy. If so, then he or she will at least depart on signal when the interview is over. The passive-aggressive on the other hand will keep us waiting more or less deliberately and without apology. In addition he will overstay the appointment, stubbornly ignoring his cues or our complaint that we have a schedule to keep.

Or turn the situation around and suppose that we are unavoidably detained. Will not the paranoid predictably interpret our tardiness as a personal and punitive discrimination? The aggressive will not be satisfied with our verbalized regret; he will also demand an explanation ("How come?") and see to it that we are made defensive and uncomfortable.

Analysts claim that the personality type is most clearly demonstrated by the individual's sexual behavior: he will approach all transactions after the fashion or manner in which he makes use of his genital. But doesn't this just confirm the consistency of the types? And the same could be said of the person's style of eating or talking or driving a car. Will not the aggressive usually drive half way into the unoccupied cross-walk at a traffic light? And if you look closely this is almost poetically symbolic of his social as well as his "phallic" identity.

Or consider the constellation of attributes of the obsessive-compulsive. He will always be orderly and punctual, obstinate and miserly. Yes; even his smile and his handclasp will be miserly; and he will not pay a simple compliment or ever lend himself to a cause.

Well, it would be interesting to go on giving illustrations of the consonance of each particular personality pattern and the perennial or enduring quality of the individual trait disorders.

But this is not a parlor game. These are the cripples who get caught in the surf. And they pull down everyone to whom they cling.

Competent people — employers and professional men — tend to turn their backs on the personality disorders. Disillusionment brings disinterest. When the sociopathic alcoholic smuggles vodka or barbiturates into his hospital room, playing mischievous sixth-grade games with the nursing staff, our compassion naturally begins to unravel. One had better back away from the shallow and provocative promises of the hysteric (emotional instability) who tries to personalize

---

*Pattern: Inadequate, schizoid, cyclothymic, paranoid.
Trait: Emotionally untable, compulsive, passive-aggressive, sociopathic.

every encounter. When the paranoid argues from unprovable premises and still allows no conjecture that he might be mistaken, people begin to avoid him; he is sure that he is out in front when in fact he has been left behind.

Distortion of the whole pattern of the personality or morbid exaggeration of a given trait has already reached high noon by the time the patient becomes a pseudo-adult. He is without insight. And his egocentricity is like the polished or reflecting side of a one-way window-mirror. Is he therefore doomed, never to love or hate anyone except himself?

No, not quite. There is a solvent for the quicksilver. The solvent as always is understanding.

One cannot or could not help developing a personality pattern or trait disorder. Most of the trouble lies in the patient's unawareness, in the blindness of his repetitions. Once he knows what is wrong he can begin to correct it.

The physician should almost commit to memory (as with syndromes) the cardinal features of each of the personality disorders. Then he can inform and instruct his patient to watch for manifestations of his particular problem. And the patient can be encouraged to try more mature — usually quite opposite — ways of reacting to various situations which confront him. As in any learning process a little knowledge is not a dangerous thing. A little knowledge is infinitely better than no knowledge at all!

The individual with a personality disorder should next consider telling those closest to him. This is disarming, of course, and it invites intelligent cooperation, even with an indulgent sense of humor, instead of habitual retaliation. If people are going to play games they ought to agree to the rules or at least know what the rules are. A passive-aggressive, for example, could warn his mate or associate that he may at times display certain resistances which are really indirect demands for reassurance. (Remembering a few childhood deprivations we hereby give notice that the whole world must apologize to us and coax and compensate us — and we will not accept the apology anyway, so there!)

The first sign of improvement in any personalty disorder, the first aperture in the mirror of egocentricity, will be wonderfully apparent. It will be when the individual recognizes another person's needs and not just his own. This is what the personality disorders were not taught and did not learn.

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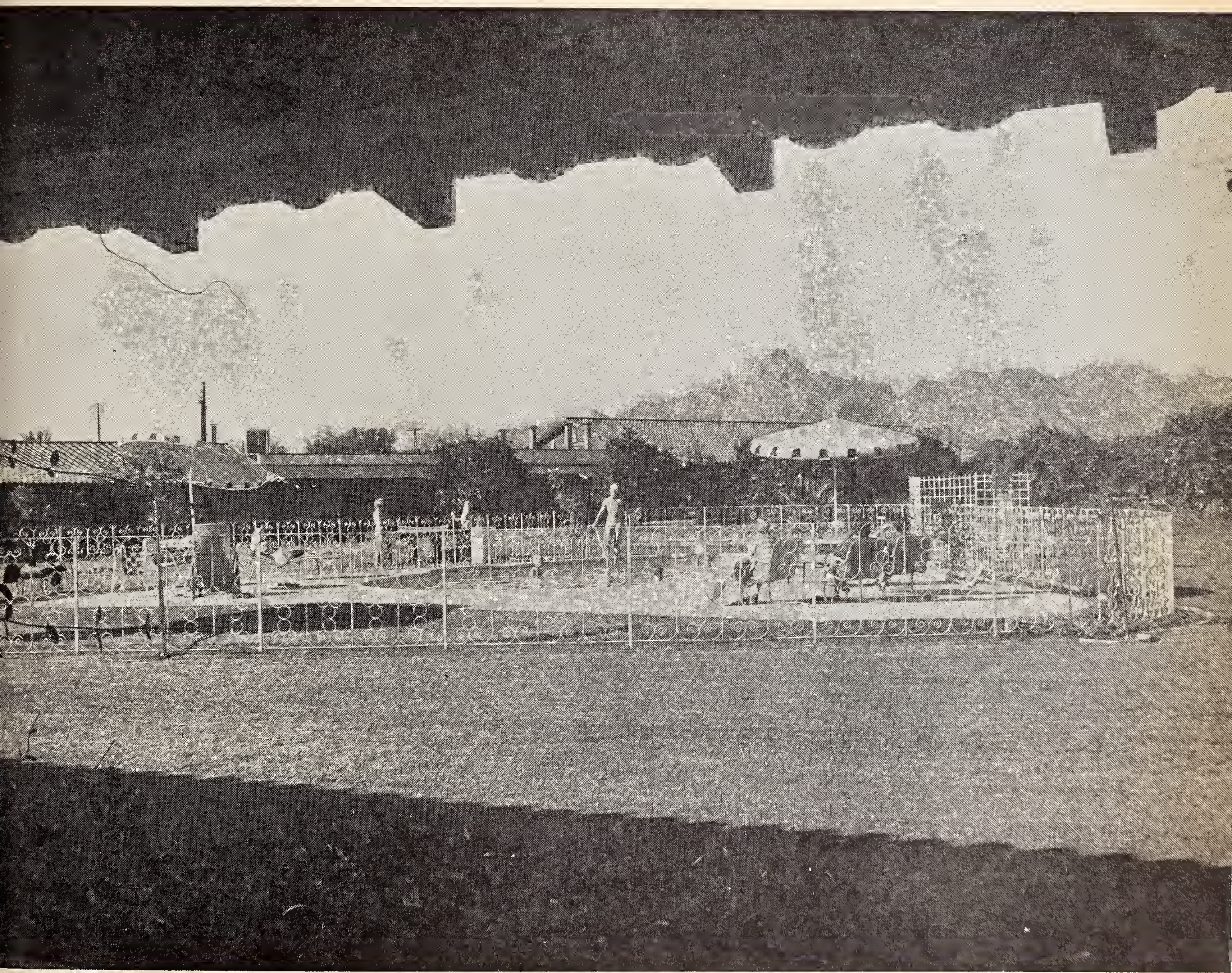

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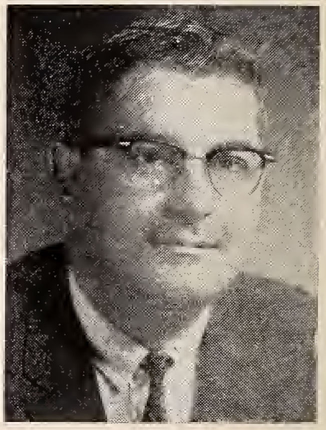

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Bernice L. Steward, M.D.
1907-1967

The immortal words of Chalmers "Live for something! Do good and leave behind you a monument of virtue that the storm of time can never destroy. Write your name in kindness, love and mercy on the hearts of thousands you come in contact with, year by year, and you will never be forgotten" could have been written on the life of our associate and friend Dr. B. L. (Tom) Steward, whose passing on August 7, 1967, at his home in Coolidge, Arizona, is regretfully recorded.

"Dr. Tom," as he was affectionately called by hundreds, began his life in the small hamlet of Elkton, Missouri, on March 19, 1907. He was the third son of a country doctor, Dr. C. V. Steward, to become a general practioner. When a small boy, his parents moved to Bolivar, Missouri, the home of the Southwest Baptist College (one of the many schools he attended in his lifetime). It was here that he spent his formative years in idyllic boyhood pleasures — hunting, and fishing in the area surrounding his home. The philosophic phrase that remained with him throughout his life is found in Ecclesiastes 3: 1-10, "For everything there is a season, and a time for every matter under heaven; a time to be born, and a time to die; a time to plant and a time to pluck up that which is planted . . . ." "Dr. Tom" spent two years in St. Louis University, then decided against medicine. He went to New Orleans where he held many jobs, including a year on a banana boat as a steward. He finally decided he did want to study medicine and entered Medical School at the University of Tennessee from which he graduated in 1935. He came to Arizona to be near his brothers, Dr. G. B., who was then in Florence, and Dr. H. B., who was in Coolidge. After spending a year at St. Joseph's Hospital, he came to Coolidge and took over Dr. H. B.'s practice, who died in that year.

"Dr. Tom" entered the Army in 1942. Starting at Camp Barkley, Texas, he was transferred to the Hospital at Fort Ord, California, where he met his wife, the former Rose Panziera, R. N., of Salinas, California, who served as a nurse in the Army Air Force. From Ft. Ord, California, Dr. B. L. was sent to Bizerte, Africa, where he was chief of surgery, and finally to Naples, Italy, with the 300th General Hospital.

"Dr. Tom" was the doctor for the Arizona State Prison for twelve years, starting the hospital there and was known for his ability not to be "conned" by the prisoners, but also for his kindness and expert care.

Following his return to Coolidge after the war, he was associated with his older brother, Dr. G. B. Steward, until his death in 1954. It was during this association with Dr. G. B. that they made many trips to Canada to hunt big game. Also, the fishing there and in Mexico which he so much enjoyed as recreation.

After his first coronary in 1962, his practice slowed although his interest in people and books never faded. Now let us resolve that his life has not been in vain, that the many kindnesses that actuated him shall henceforth have an uplifting influence upon us.

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Contraindication: Penicillin hypersensitivity.

Warnings: In rare instances, penicillin may cause acute anaphylaxis which may prove fatal unless promptly controlled. This type of reaction appears more frequently in patients with a history of sensitivity reactions to penicillin or with bronchial asthma or other allergies. Resuscitative drugs should be readily available. These include epinephrine and pressor drugs (as well as oxygen for inhalation) for immediate allergic manifestations and antihistamines and corticosteroids for delayed effects.

Precautions: Use cautiously, if at all, in a patient with a strongly positive history of allergy.

In prolonged therapy with penicillin, and particularly with high parenteral dosage schedules, frequent evaluation of the renal and hematopoietic systems is recommended.

In suspected staphylococcus infections, proper laboratory studies (including sensitivity tests) should be performed.

The use of penicillin may be associated with the overgrowth of penicillin-insensitive organisms. In such cases, discontinue administration and take appropriate measures.

Adverse Reactions: Although serious allergic reactions are much less common with oral penicillin than with intramuscular forms, manifestations of penicillin allergy may occur.

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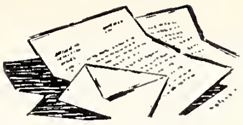

CORRESPONDENCE

August 22, 1967

Dr. Wallace Reed
Arizona Medical Association
4601 N. Scottsdale Road
Scottsdale, Arizona

Dear Dr. Reed:

The subject of payment for medical and medically related services has been under consideration by the Arizona State Department of Public Welfare for quite some time. As a matter of fact, the Division of Rehabilitation for the Visually Impaired (DRVI) has been in contact with your Association, or members thereof, regarding these matters from time to time, and has found such contact considerably beneficial.

The State Board of Public Welfare has accepted the concept that physicians and other vendors of services are entitled to remuneration for those services at a reasonable and customary fee. The Board recognizes that its present fee schedule does not reflect this concept, and accordingly has requested additional funds in its fiscal year 1968-1969 budget request to the Arizona State Legislature in all areas where medical services are purchased by the State Department of Public Welfare.

This department has, and continues to be pleased with the fine relationships which exists with your profession. We have every confidence that these fine relationships will continue.

You are aware that the department's operating funds for the present fiscal year (1968) are not sufficient to enable the transition to a fee schedule embracing the usual and customary concept. The adoption of such a fee schedule, in fact, hinges entirely upon a successful response by the Arizona State Legislature to our budget request for fiscal year 1968-1969. Although the State Welfare Department will be explaining the increased amount of the request to the State Legislature we cannot assure favorable action. Therefore, knowing fullwell your considerable interest in this matter, you may wish to consider expressing your interest to the legislature.

I shall be happy to discuss this matter with you further, should you desire.

Sincerely yours,
John O. Graham
Commissioner

September 6, 1967

Roland F. Schoen, M. D.
Editor
Arizona Medicine
Suite 201
4601 North Scottsdale Road
Scottsdale, Arizona 85251

Dear Doctor Schoen:

I would like to correct an erroneous impression in Doctor Preston Taylor's article, "Hemorrhage while on anticoagulant therapy precipitated by drug interaction," *Arizona Medicine,* August, 1967.

I question the significance of a two second prolongation of the prothrombin time in case number three at twenty-four and forty-eight hours while on combined "Panwarfarin" (warfarin) and phenobarbital, as compared to the administration of "Panwarfarin" alone. This certainly is within limits of error of a prothrombin determination in a clinical laboratory.

Phenobarbital (as well as other barbiturates) does not potentiate the effect of coumarin anticoagulants; rather, it may antagonize the hypoprothrombinemic effect of these agents by "enzyme induction" in the liver.[1, 2] Enzyme induction refers to the increased quantity of drug metabolizing enzymes present in the liver microsomes as a result of drug administration. By this means, a drug may, in time, increase the rate of its own metabolism so that its effect is less (examples being tolbutamide, barbiturates, and meprobamate, but not the coumarins), or may accelerate the metabolism of other drugs being given concomitantly. The combined use of barbiturates and coumarins is an example of this latter action. Barbiturates accelerate the metabolism of coumarins in the liver. Not only is the plasma level of *orally* administered coumarins less after barbiturate administration, but the hypoprothrombinemic effect is markedly lessened.[3, 4] Pretreatment with barbiturates does not, however, influence the plasma level or hypoprothrombinemia of *intravenously* administered coumarins, (possibly indicating a different metabolic pathway for the two routes of administration).

Some other examples of drug interaction are:

1. Potentiation of the effect of tolbutamide by dicoumerol, the result of inhibition of oxidation of tolbutamide in the liver.[5]

2. Acceleration of the metabolism of diphenylhydantoin by phenobarbital.[6]

3. Potentiation of diphenylhldantoin by dicoumerol.[7]

How clofibrate and thyroxine potentiate and griseofulvin antagonize coumarin anticoagulation is unknown at present.[8] Apparently, phenylbutazone ("Butazolidine") and oxyphenylbutazone ("Tandearil") potentiate the action of coumarins by competing for binding sites on plasma proteins. This results in more coumarin being in the free, pharmacologically active form and a more pronounced hypoprothrombinemia results from a given dose of the anticoagulant.[9] Aspirin and propylthiouracil have an anti-vitamin K activity that will lead to a greater effect of the coumarins.[10]

Doctor Taylor's excellent article certainly points out the dangers which may arise when additional drugs are administered to the patient on long term anticoagulation. The physician must be constantly alert to the possibility of drug potentiation or inhibition when more than one drug is prescribed. More examples of this phenomenon will be uncovered in the future. Doctor Taylor is to be commended for bringing this important subject to the attention of physicians in Arizona.

Sincerely,
Jerome C. Robinson, M.D.

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September 20, 1967

Dr. Roland F. Schoen
Editor
ARIZONA MEDICINE
4601 North Scottsdale Road
Suite 201
Scottsdale, Arizona 85251

Dear Roland:

I find myself completely incapable of marshaling the right words to express adequately the gratitude of those of us involved in starting the new College of Medicine for the tribute paid to us and to the College through the dedication of the September issue of ARIZONA MEDICINE. The students, the faculty and the administration have all registered their sheer delight and pleasure at your thoughtfulness.

We thank you one and all.

Very sincerely yours,
Merlin K. DuVal, M.D., Dean
The University of Arizona
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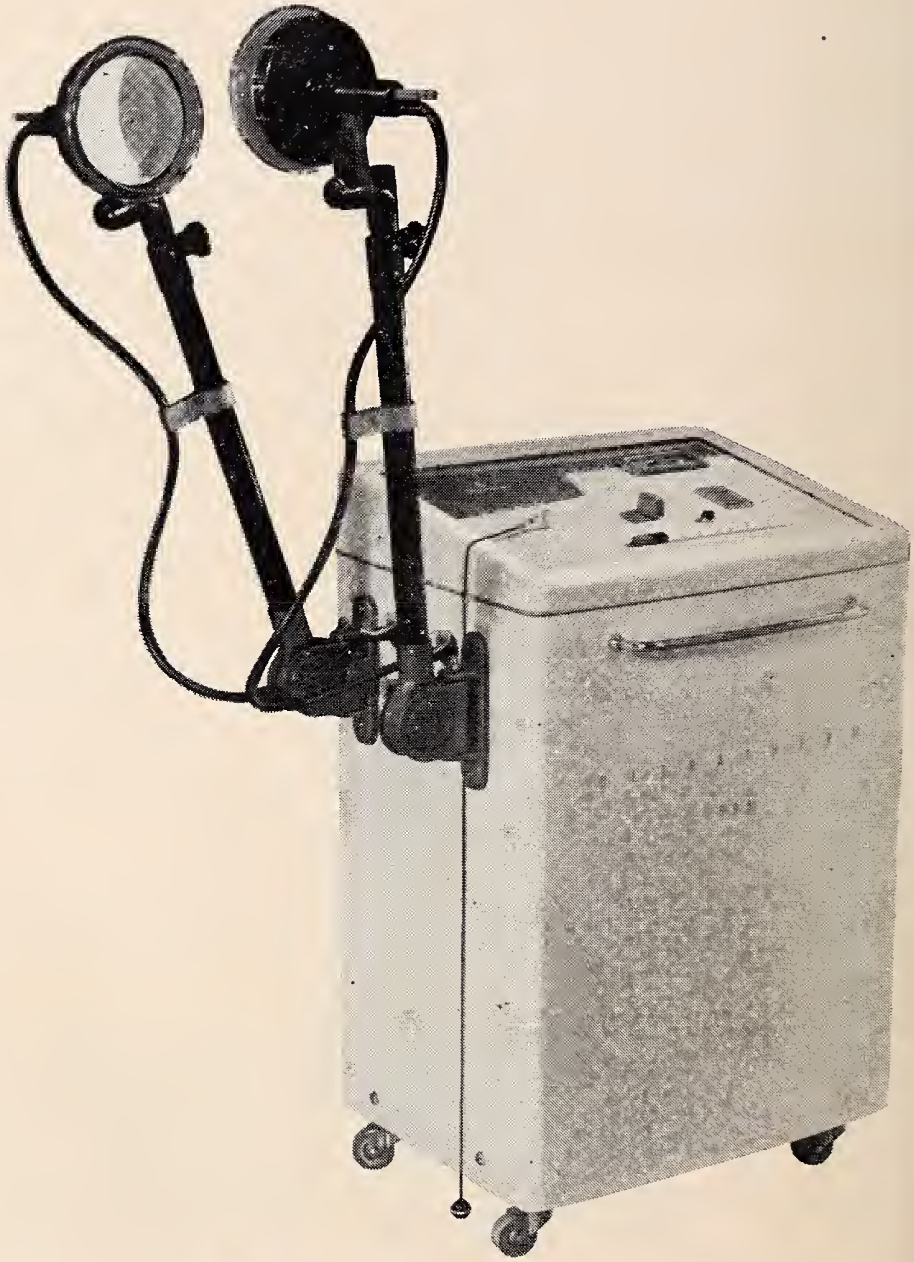

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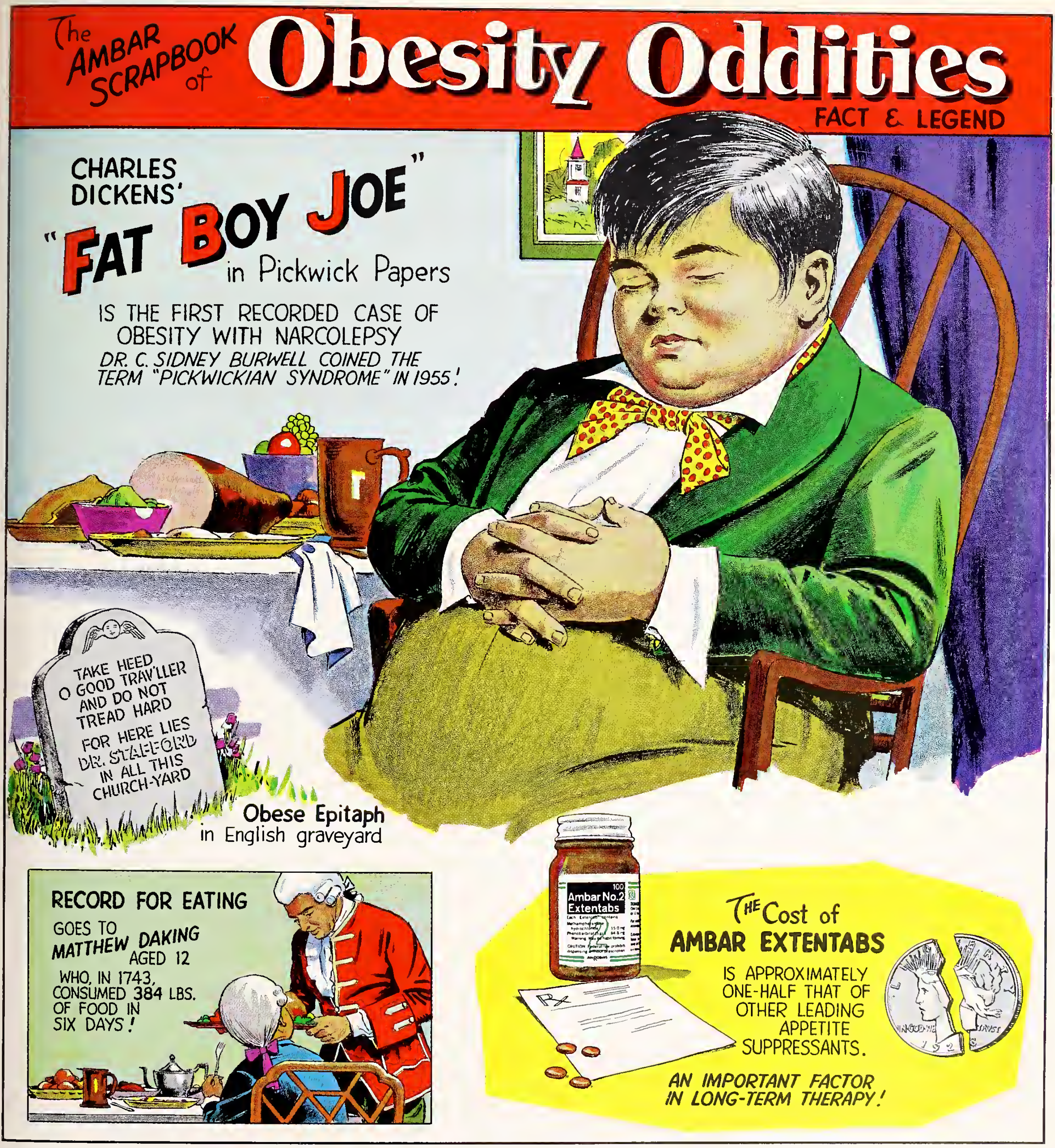
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Precautions: Until patient's response has been determined, he should be cautioned against engaging in operations requiring alertness. Administer with care to patients with cardiac or peripheral vascular diseases or hypertension.
Side Effects: Hypersensitivity reactions including skin rashes, urticaria, hypotension and thrombocytopenia, have been reported on rare occasions. Drowsiness, lassitude, nausea, giddiness, dryness of the mouth, mydriasis, increased irritability or excitement may be encountered.
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References: 1. Batterman, R. C., and Grossman, A. J.: Fed. Proc. *14*:316, 1955. 2. Goodman, L. S., and Gilman, A., ed.: The Pharmacological Basis of Therapeutics, ed. 3, New York, The Macmillan Company, 1965, p. 331. 3. Roth, J. L. A., *et al.*: Gastroenterology *44*:146, 1963. 4. Conney, A. H., and Burns, J. J.: J. Pharmacol. Exp. Ther. *128*:340, 1960. 5. Settel, E.: Clin. Med. *6*:1373, 1959. 6. Berman, H. H., *et al.*: Dis. Nerv. Syst. *25*:430, 1964. 7. Darienzo, C.: Ibid., *27*:189, 1966.

*U. S. PATENT NO. 2,895,877

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Arizona's Medical Memories

Audrey D. Stevens

No doubt many headaches were created when the first women physicians were admitted in 1894 to the Arizona Medical Association. From hand-written minutes of the Arizona Medical Association one would gather that both Dr. E. A. Ingalls,[1] graduate of the University of Michigan (1875),[2] and Dr. A. M. Givens,[3] graduate of the University of Southern California, (1890),[4] were admitted into the organization on a fluke.

A humorous addition to the above is that in Phoenix at the first morning session of the Arizona Medical Association's Annual Meeting of 1895, Dr. A. M. Given was nominated by the Nominating Committee to the office of 3rd Vice-President – "and was duly elected."[5] The next day – "Dr. H. A. Hughes offered the following amendments to the By-laws: Resolved that hereafter the elections of officers for this Association shall take place at the afternoon meeting of the second day of the session. This was adopted by unanimous vote." "Dr. Charles H. Jones offered the following amendment to the By-laws: The Association shall have power to add to the list of candidates reported by the nominating committee." The minutes continued, "Failing to carry by unanimous consent it was laid on the table until the next meeting."[6] In 1896, the Association did without a 3rd Vice-President![7]

By 1897, the poor men had to give up their struggle – or so it appears in the Arizona Medical Association minutes of 1897 which reads: Dr. Joshua Miller (first President of the Association) made the following resolution as an amendment to the constitution – "Resolved that the words 'gentlemen in the profession' be changed to 'ladies and gentlemen.'"[8]

In 1903 the first medical licenses were issued in Arizona. With the exception of the members of the Board of Medical Examiners all licenses were issued alphabetically. Dr. Rosa Boido was the first woman to be issued a license and was issued license #5.[9] She graduated from the Cooper Medical College in 1898, became a member of the Arizona Medical Association in 1901, while practicing in Tucson was Superintendent of the Scientific Temperance Committee of the W.C.T.C. and President of the Suffrage Club for Pima County. In 1912 Dr. Boido and her husband, Dr. Lorenzo Boido, moved from Tucson to Phoenix. In 1920 both her husband and she had their licenses cancelled and they left the state.[10]

The first woman doctor to read a paper at one of the Association meetings (1906) was Dr. Mary Neff, graduate of the University of Iowa.

Mrs. Stevens is the wife of W. C. Stevens, M.D., Kearney, Arizona.

Rosa Boido, M.D.

Clara S. Webster, M.D.

The title of her paper was, "The Medical Inspection of Schools."[11] According to the late Dr. Clara S. Webster, who at one time was Dean of Women of the University of Arizona, Dr. Neff had a very fine sense of humor and though I have used this story before, I believe it is worth repeating:

"Dr. Neff was practicing in Phoenix early in the present century when she was hurriedly called to attend an Indian woman in childbirth. Twins were born; and immediately the Indian husband jumped up with a hatchet in hand, held it over the wife's head and threatened to kill her instantly unless she revealed who the other man was. Dr. Neff assured him that the birth of twins was by no means a rarity! He angrily retorted that inasmuch as the doctor was a woman she would naturally side with the wife and he refused to believe her. Finally Dr. Neff proposed that they call in a man with the title of Judge and have him settle the dispute. His decision was accepted and the wife was cleared of any suspicion."[12]

Dr. Neff was a member of the Arizona Medical Association but was not a member of her county's society.[13] In fact county medical societies were slow, by any standards, in admitting women. In 1926 the Pima County Medical Society admitted their first woman physician, Dr. Lillis Wood Starr.[14] Three years later, 1929, the Society admitted their third woman physician, Dr. Clara S. Webster.[15] It seems to me that from then on the minutes of the county medical societies and the Arizona Medical Association minutes became a little duller reading — at least in regard to women physicians.

FOOTNOTES

1. Original Handwritten Minutes of the Arizona Medical Association, Volume 1, page 15.
2. Brown, Orville Harry, M.D., collection of History of Medicine in Arizona, (unpublished), Volume VI, page 5.
3. Original Handwritten Minutes, etc, page 18.
4. Brown, op. cit., Volume II, page 13.
5. Original Handwritten Minutes, etc., page 22.
6. Ibid, page 23.
7. Ibid, page 25.
8. Ibid, page 29.
9. Arizona Medical License Register, Volume I.
10. Brown, op. cit., Volume I, page 180.
11. Original Handwritten Minutes, etc, page 89-90.
12. Stevens, Audrey D., personal correspondence with Clara Webster, M.D. June 21, 1962.
13. Maricopa County Medical Society Minutes (1905-1916).
14. Pima County Fifty Year Program.
15. Ibid.

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This unsolved disproportion between supply and demand has created a ridiculous situation. Highly skilled general surgeons do not have the cases for which they were trained nor the volume to maintain their proficiency. In the face of rising demand for its services, general practice is confronted with the prospect of dying out altogether. The situation involves a gross waste of already scarce medical manpower and teaching. It thus contributes to the rise in cost of medical care and adversely affects intra-professional relations.

We would like to advance the proposition that the problems of the oversupply of surgeons and the undersupply of general practitioners are directly related and the direct result of the positions taken by the AAGP and ACS on the question of the future scope of surgery in general practice. We further hold that unless both groups radically change their positions, the current disproportion will not only continue but will become progressively worse.

First, let's consider what the position of each group has been over the surgery question:

The American College of Surgeons has long held that doctors who have been doing good surgery in general practice should be allowed to continue regardless of how they came by their training — but that new doctors entering general practice should be prohibited from virtually all surgery. Restrictions are aimed at the new GP, not the old.

The position of the American Academy of General Practice is not so simply stated. It has been "officially" opposed to placing restrictions on the younger men, but established GP's at the local level have frequently let restrictions be put in with a grandfather clause. A number of national leaders have expressed the idea that for general practice of the future there would be less emphasis on surgery with more emphasis on internal medicine and the non-surgical fields. They have acted as though they saw the "handwriting on the wall" and that it was pointless to put up a fight for surgery as an important or integral part of general practice. Many have recommended that they would treat surgery as "elective" training in a residency program.

Neither the Academy nor the College should be condemned for taking these attitudes, because both positions seemed logical. Why should anyone be concerned with teaching GP's surgery when better trained surgical specialists were immediately available? The surgeons needed the cases that would be going to GP's and many GP's felt their time could be better devoted to other phases of medical care.

The fallacy in this approach is that surgery is a fundamental part of medicine to the young medical student. This is something above and beyond the justified concern of the medical educator over the student who "can't wait to get a knife in his hand." To many, surgery is simply part of being a doctor. General practitioners who do little surgery cannot understand or appreciate this. They feel they do a better job for their patients by referring all surgical cases. But the fact remains that their own interest gives them a biased opinion, an opinion not shared by the majority.

The prevalence of a basic and predominating interest in surgery amongst future physicians is illustrated by the fact that, despite the small and decreasing need for more surgeons, there are 6,010 general surgical residents (more than in any other specialty), with 95 per cent of surgical residency openings filled.

Reprinted from the March/April 1967 issue of CALIFORNIA GP.

The statement is often heard "but, today's young GP's don't want to do surgery . . ." This is true. If they had, they would have taken a surgical residency. A number of the physicians in surgical practice today would have preferred to have been general practitioners, but they didn't want to be doing general parctice without surgery — and general practice, having all but abdicated surgery, was in no position to compete for this type of student.

There are those who will say that offering better surgical training in general practice is not the solution to the problem, that the solution lies in educating young doctors on the importance of "family counseling, preventive medicine, etc." . . . and that if medical students don't want to go into this type of family practice then we need different criterion for selecting students to go into medicine. Most doctors who advocate this, however, are not faced with this type of practice themselves. And while family counseling and preventive medicine are an important, necessary part of general practice, they are certainly not the whole nor to most physicians are they the challenging, stimulating part of medicine that draws a person to the medical profession in the first place.

What is clearly called for is a complete reversal of the present trend away from surgery in general practice to one where surgery would be viewed as an important part of general practice. We are by no means suggesting that the clock be turned back to the general practice surgery of yesteryear or even of today. In all honesty, it must be admitted that a significant portion of general practice surgery has not been up to specialty standards. Medical educators have been critical of general practice surgery, and this criticism has at times been justified. But we have enough confidence in these same educators to feel that they can help us develop programs that would do a superior job in preparing a person to do surgery in general practice. How much is done should depend on individual ability and interest. No one has ever attempted to train such an individual in a medical school affiliated residency, so no one can state that it can't be done.

Would medical students be interested in a general practice residency that offers this type of training? A key to the answer may be found in an analysis of the existing general practice training programs. Those few which offer good surgical training today are 90 per cent filled and draw students from the top portion of their class.

The programs that have uniformly had vacancies (and those programs are in the majority) have been uniformly weak in surgery. The most disappointing programs of all were the so-called "family practice residencies" which have all but been abandoned for lack of applicants.

On the surface it might be thought that the ACS would fight any such move to have GP's do more surgery. But if the results of the current policy are considered, perhaps they will take a second look. The only way the oversupply of surgeons will ever be solved is to drastically reduce the number of surgical residencies to bring them in line with demand, and this can only be done by *increasing* the surgical emphasis in general practice. There is a definite need for the surgical specialist — but to remain good, a surgical specialist must do an adequate number of operations, particularly the difficult cases for which he has been particularly trained, in order to maintain his skills, to progress and to be a good consultant. Surgical specialists should not be involved in a part time general practice nor in the less complex procedures that the properly trained general practitioner can handle just as well. The general practitioner for his part must also do enough surgery, even though less complex, so that he too can maintain his proficiency.

Both the College, the Academy and the AMA should be concerned in trying to achieve a better balance of surgeons and GP's. But as with all goals, there is a price. The price to the College will be a reversal of its attitude that "no one except a board certified surgeon should enter the abdomen . . ." Instead of seeing how little surgery it can restrict the future GP to doing, the College should see how much the GP can be trained to do competently, keeping in mind that he must be able to perform his more limited procedures with the same measure of competence and safety as the specialist. The difference between surgery done by GP's and surgery done by specialists should be only in the degree of surgery undertaken. There should be no difference between the quality of care offered rural or urban patients, thus the idea of training GP's for surgery only if they are to practice in rural areas is unwarranted if medicine is to have one standard of care.

General practice must also pay a price. It must take a more active role in seeing that those physicians who need restricting are restricted — and they must face the unpleasant fact that many may be in general practice. Grandfathering practices should be totally abolished. General practice should not let general practice be used as a short cut to specialty practice. This can only be prevented by use of controls. It must take responsibility for curbing the abusive practice of doctors with *inadequate* basic training learning surgery on their own patients. At one time this was acceptable, but with the availability of better training programs such practices are no longer acceptable. At the same time the GP with adequate basic training should be encouraged to continually learn and develop his skills in surgery, as in all areas, to the fullest extent of his ability. GP's will have to respect the right of the surgical specialist to pick his own assistant. While the ideal situation may be one in which the GP assists, the surgeon is in the best position to know what he wants in an assistant so the choice should be left to his discretion.

Lastly, but possibly most important, the GP should give up the idea that he must be a specialist. The ideal general practitioner can never be a specialist because he likes all phases of medicine (including surgery) so much that he doesn't want to restrict himself to one area. There is an unquestioned public need for having one doctor who can do something of everything and do it well. This takes an exceptional individual and it takes exceptional training and he is practicing "general" not "specialized" medicine.

All of this is a big order. It is not easy to reverse established patterns, even when they can be shown as being incorrect. But it should also be obvious that neither surgery nor general practice is faring well under the present attitudes. A board of family practice, however well meaning, will simply intensify the problem by even further removing surgery from general practice. If present trends persist, the eventual outcome will be a type of uninspired family doctor who will see a huge volume of basically well patients and refer anyone who is very ill. There will be surgeons, far too many, who will find themselves fighting for the inadequate number of cases they have to share among themselves. This is not the type of medical practice that any of us would want our sons to enter.

The Academy and the College have an opportunity to do a great deal for the practice of medicine by taking a closer look at their positions on the surgery question. The goal of the ACS should be fewer but better surgical specialists; the goal of the Academy should be more but better general practitioners. These goals are compatible and both are worth working for.

The Trend Away From Surgery

Unfortunately, general practice has had reason to be apologetic over the surgery question. As the ACS moved to raise standards of surgical care, general practice moved sideways to retain the status quo. It failed to join with ACS and others, even though it was invited, to set up the Commission on Professional & Hospital Activities which has been the leading group in the United States in developing medical audits of hospital care; nor has it in the past shown leadership in the development of general practice residency training programs or hospital oriented intraining programs. In essence, general practice has been continually on the defensive towards hospital problems. Aside from its postgraduate requirements it cannot point to any positive programs that it has initiated to improve quality of care, particularly in the poorly supervised hospitals, many of which have reflected more on general than specialty practice.

The idea of a Board of Family Practice is an indication of a continuance of this trend away from surgery in general practice. Since the proposed Board emphasizes internal medicine, psychiatry, pediatrics and preventive medicine, it is only reasonable to expect it will appeal to the very resident who, because of his natural interest, thinks in terms of the non-operative fields. The appeal is to the wrong type of medical student since the number of students interested in the non-operative fields is already in short supply because of lack of appeal. If the new Board of Family Practice is successful in attracting residents it will attract residents from the very specialties which can afford to give them up the least, namely, internal medicine, pediatrics and psychiatry. As now proposed, the new Board will certainly not attract residents away from the surgical residencies which are the very residencies that should be reduced. To feel that the offering of a Board certificate as a means of attracting students to careers in so-called family practice is grossly overvaluing the importance of certification.

With the explosion of medical knowledge is it really possible for any one man to practice good general medicine today?

Many medical educators have expressed this doubt and it has plagued many medical students who are looking forward to being an expert in something. These educators are usually thinking in terms of the doctor going into general practice after a one year internship or a second rate residency. (Seventy-five per cent of the GP's in the United States have no residency training of any type.) If these conditions continue their doubts would be justified. But they are not justified if there is an upgrading of general practice residencies to bring them on a par with specialty training programs, something which is long overdue.

The general practitioner can never be *the* expert in any field if a comparison is made on the range or scope of work undertaken. He can, however, indeed be an expert in the areas he does undertake and as the field of general practice gains status through improvement in residency training it will be a worthwhile goal to be an expert in general practice itself.

Medicine is becoming more complex on the one hand but treatment and care are just as often more simplified and effective. In many cases a general practitioner is able to adequately handle cases today that were specialty cases just twenty years ago.

Regardless of how desirable it may be, is it realistic to expect that surgery can become an important part of general practice in the future? What could be done to bring this about?

First, the California Academy of General Practice must solidly be behind any such movement. The responsibility for making this decision rests with the Board of Directors and Congress of Delegates of the Academy. Individual members are encouraged to discuss this question with members of the Board and Congress or to address a letter or note to Herbert A. Holden, M.D., President, California Academy of General Practice, 9 First Street, San Francisco.

Once a decision is reached, the state organization would move to gain national and county chapter level support to make this a top priority program. The real work, and the key to the success of any such program, will be in the residency development area. Fortunately, California has already made significant strides through a general upgrading of general practice residencies, and this experience places it in an ideal position to spearhead a change in the concept of surgical training for general practice.

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PROFESSIONAL COURTESY

Adopted by Judicial Council
June 17, 1967

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Professional courtesy is not a rule of conduct that is to be enforced under threat of penalty of any kind. It is the individual responsibility of the physician to determine for himself and within his own conscience to whom and the extent to which he shall allow a discount from his usual and customary fees for the professional services he renders, and to whom he shall render such services without charge as professional courtesy.

The following guidelines are offered as suggestions to aid physicians in resolving questions related to professional courtesy.

1. Where professional courtesy is offered by a physician but the recipient of services insists upon payment, the physician need not be embarrassed to accept a fee for his services.
2. Professional courtesy is a tradition that applies solely to the relationship that exists among physicians. If a physician or his dependents have insurance providing benefits for medical or surgical care, a physician who renders such service may accept the insurance benefits without violating the traditional ethical practice of physicians caring for the medical needs of colleagues and their dependents without charge.
3. In the situation where a physician is called upon to render services to other physicians or their immediate families with such frequency as to involve a significant proportion of his professional time, or in cases of long-term extended treatment, fees may be charged on an adjusted basis so as not to impose an unreasonable burden upon the physician rendering services.
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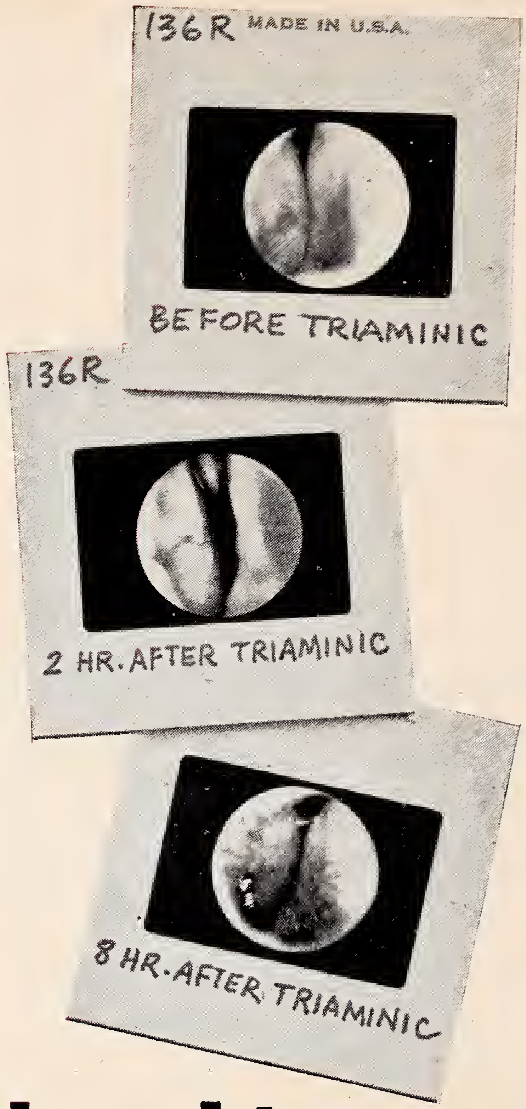

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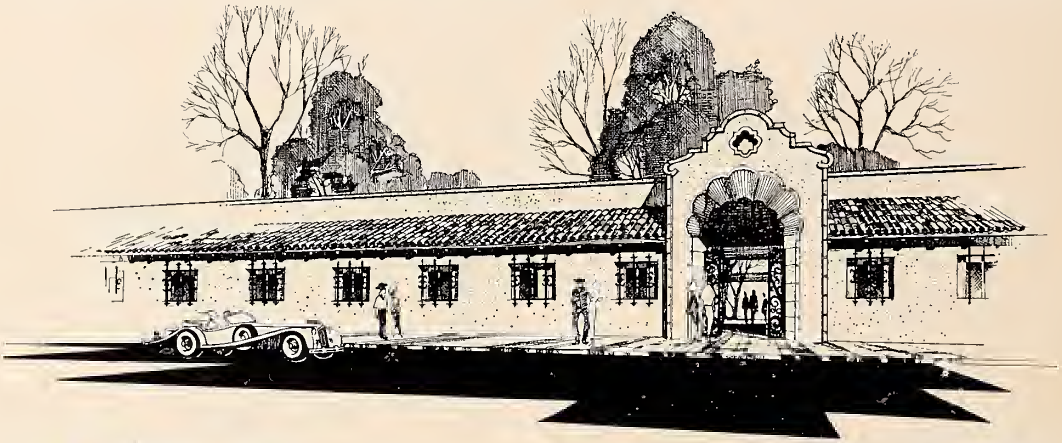

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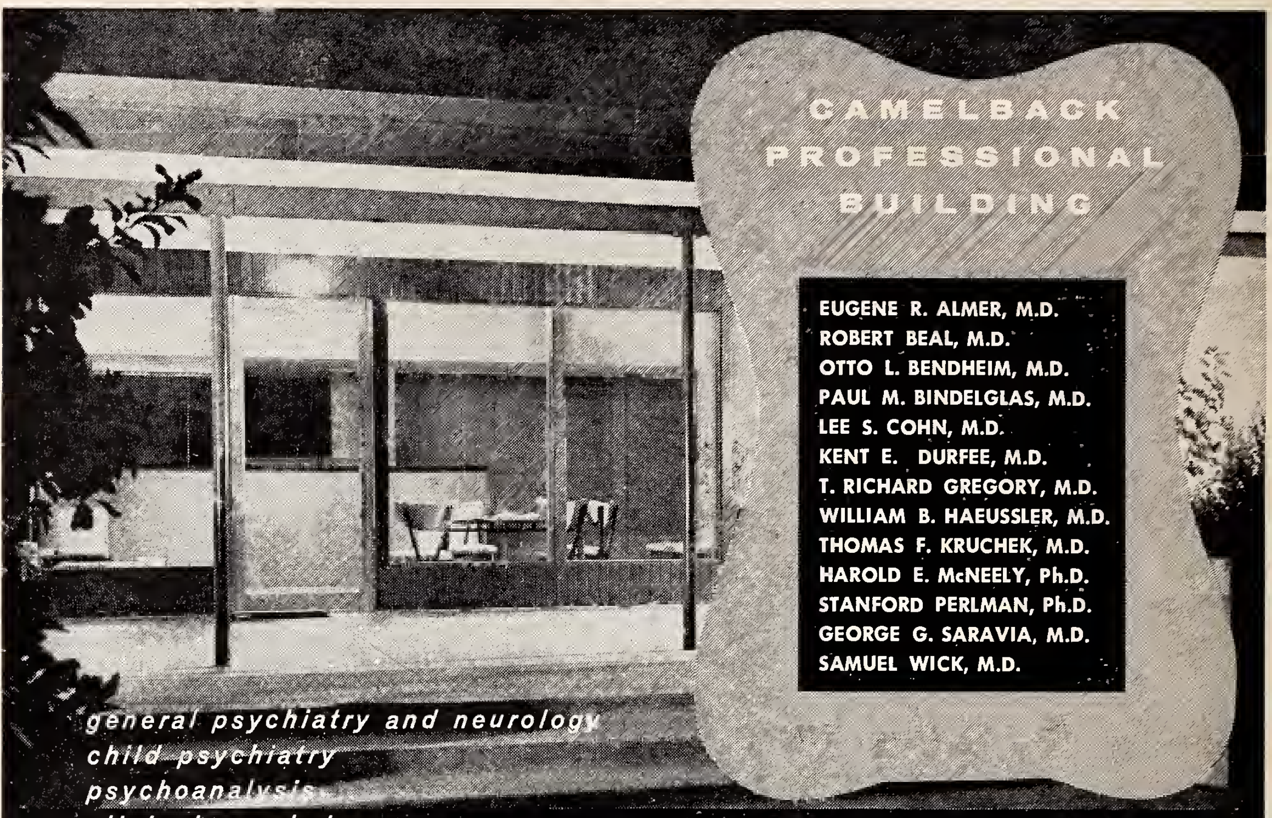

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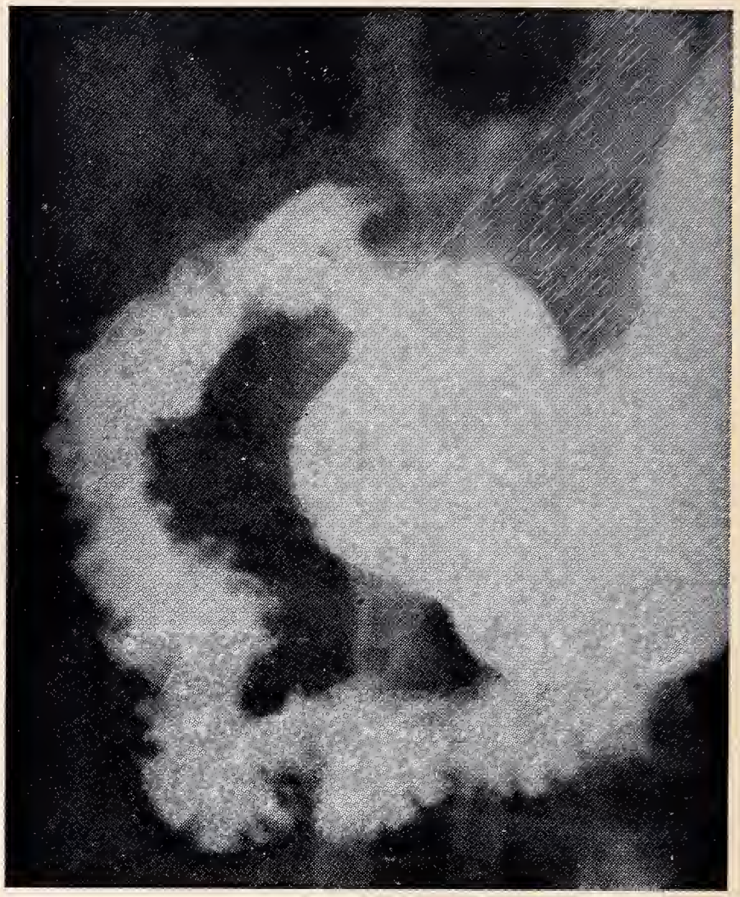

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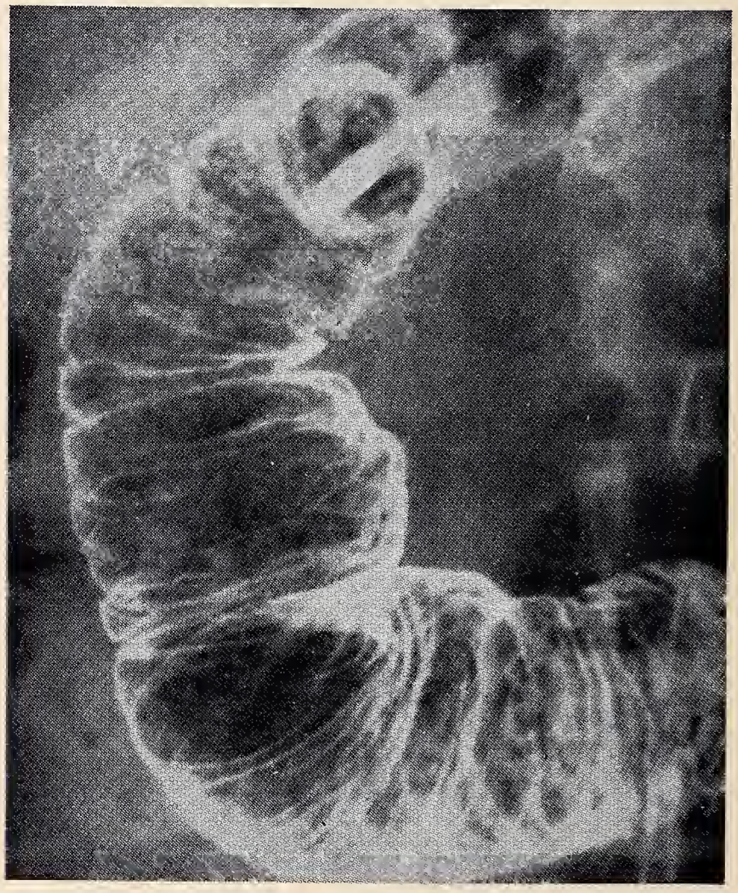

Arizona Medicine

JOURNAL OF ARIZONA MEDICAL ASSOCIATION
MEDICAL SOCIETY OF THE UNITED STATES AND MEXICO

December, 1967
Vol. 24, No. 12

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PHYSIOPATHOLOGY OF THE SYNTHETIC PROGESTOGENS 1151
E. Stewart Taylor, M.D.

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Wm. B. McGrath, M.D.

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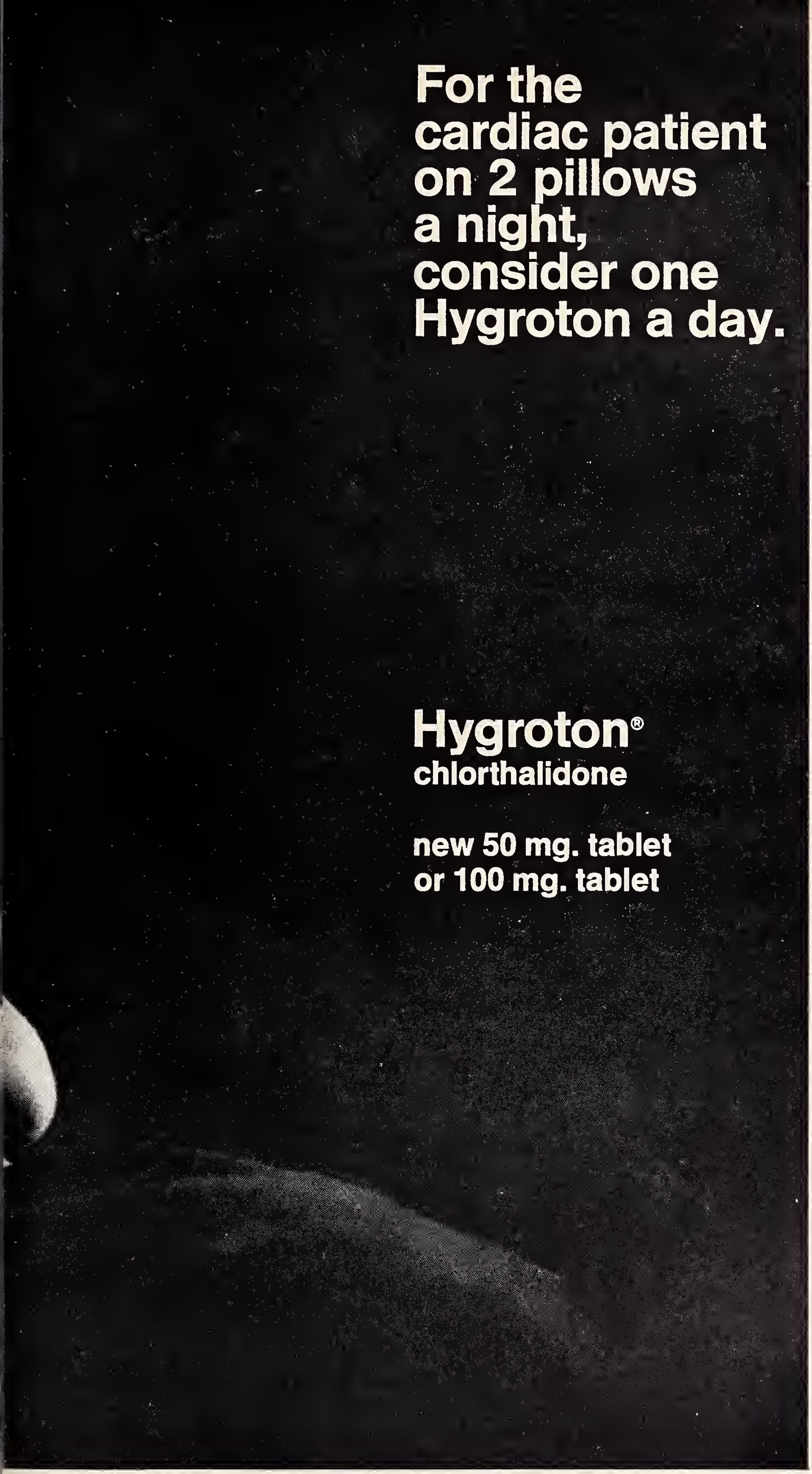
Indications: Hypertension and many types of edema involving retention of salt and water.
Contraindications: Hypersensitivity and most cases of severe renal or hepatic disease.
Warning: With the administration of enteric-coated potassium supplements, which should be used only when adequate dietary supplementation is not practical, the possibility of small bowel lesions (obstruction, hemorrhage, and perforation) should be kept in mind. Surgery for these lesions has frequently been required and deaths have occurred. Discontinue enteric-coated potassium supplements immediately if abdominal pain, distention, nausea, vomiting, or gastrointestinal bleeding occur.
Use with caution in pregnant patients, since the drug may cross the placental barrier and adverse reactions which may occur in the adult (thrombocytopenia, hyperbilirubinemia, altered carbohydrate metabolism, etc.) are potential problems in the newborn.
Precautions: Antihypertensive therapy with Hygroton should always be initiated cautiously in postsympathectomy patients and in patients receiving ganglionic blocking agents or other potent antihypertensive drugs, or curare. Reduce dosage of concomitant antihypertensive agents by at least one-half. Barbiturates, narcotics or alcohol may potentiate hypotension. Because of the possibility of progression of renal damage, periodic determination of the BUN is indicated. Discontinue if the BUN rises or liver dysfunction is aggravated. Hepatic coma may be precipitated.
Electrolyte imbalance, sodium and/or potassium depletion may occur. If potassium depletion should occur during therapy, Hygroton should be discontinued and potassium supplements given, provided the patient does not have marked oliguria.
Take special care in cirrhosis or



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severe ischemic heart disease and in patients receiving corticosteroids, ACTH, or digitalis. Salt restriction is not recommended.
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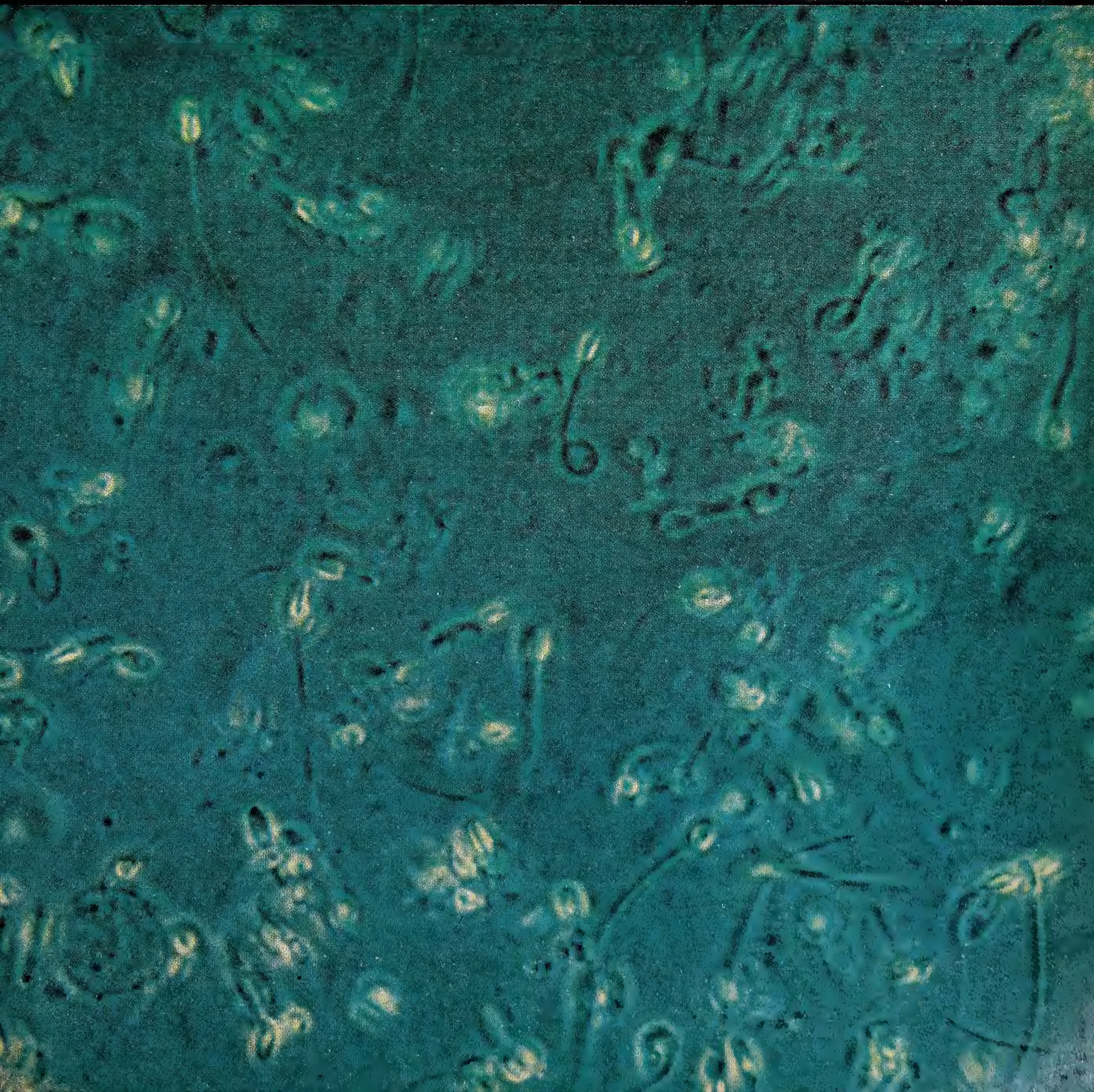
(norethindrone 1mg. c̄ mestranol 0.05mg.)

Turn page for contraindications, precautions and side effects.



Reduction of oral contraceptive dosage to the lowest effective levels is a well-accepted principle of conservative medical practice. In keeping with this view, Norinyl is now also available as Norinyl-1, containing exactly one half the previous dosage of norethindrone and mestranol. Clinical experience has established that effective fertility control can be achieved with the same degree of reliability and safety with new Norinyl-1 when taken as directed.

What about switching patients from higher dosage forms?

In transferring patients to low-dose Norinyl-1 from higher-dosage oral contraceptives, some breakthrough bleeding may occur in the early cycles. In the majority of cases the bleeding episode is mild and self-limited. The long-term advantages of the lower dosage form should be weighed against the inconvenience of possible breakthrough bleeding in the individual patient.

Prescribing Information

Contraindications: Patients with any symptoms or history of thrombophlebitis, pulmonary embolism, liver dysfunction or disease, carcinoma of breast or genital organs, or undiagnosed vaginal bleeding.

Warnings: Discontinue medication pending examination if there is sudden partial or complete loss of vision, proptosis, diplopia or migraine. If examination reveals papilledema or retinal vascular lesions, medication should be withdrawn. The safety of Norinyl-1 in pregnancy has not been demonstrated. If a patient misses two consecutive periods, pregnancy should be ruled out before continuing the medication. If she has not adhered to the prescribed schedule, pregnancy should be considered at the first missed period. Active ingredients of oral contraceptives have been detected in the milk of mothers who received these drugs; the significance to infants has not been determined.

Precautions: Pretreatment physical should include examination of the breasts and pelvic organs, as well as a Papanicolaou smear. If endocrine or liver function tests are abnormal during therapy, repeat tests are recommended after the drug has been withdrawn for two months. Following administration of drug, preexisting uterine fibromyomata may increase in size. Careful observation and caution are required for patients with symptoms or history of epilepsy, migraine, asthma, cardiac or renal dysfunction, cerebrovascular accident, psychic depression, and diabetes. In cases of undiagnosed vaginal bleeding, adequate diagnostic measures are indicated. Possible long-term effects of the drug on pituitary, ovarian, adrenal, hepatic or uterine function must await further studies. The physician should be alert to the earliest manifestations of thrombophlebitis and pulmonary embolism. The drug should be used judiciously in those young patients in whom bone growth is not complete. The age of the patient constitutes no absolute limiting factor, although treatment with Norinyl-1 may mask symptoms of the climacteric. The pathologist should be advised of Norinyl-1 therapy when relevant specimens are submitted.

Side Effects: The following have been observed with varying incidence in patients receiving oral contraceptives: nausea, vomiting, gastrointestinal symptoms, breakthrough bleeding, spotting, change in menstrual flow, amenorrhea, edema, chloasma or melasma, breast changes (tenderness, enlargement and secretion), change in weight (increase or decrease), changes in cervical erosion and cervical secretions, suppression of lactation when given immediately postpartum, cholestatic jaundice, migraine, rash (allergic), rise in blood pressure in susceptible individuals, mental depression. Although the following side effects have been reported in users of oral contraceptives, no cause and effect relationship has been established: anovulation posttreatment, premenstruallike syndrome, changes in libido, changes in appetite, cystitis-like syndrome, headache, nervousness, dizziness, fatigue, backache, hirsutism, loss of scalp hair, erythema multiforme, erythema nodosum, hemorrhagic eruption, and itching. The following occurrences have been observed in users of oral contraceptives (a cause and effect relationship has neither been established nor disproved): thrombophlebitis, pulmonary embolism, neuroocular lesions.

The following laboratory tests may be altered by the use of oral contraceptives: increased sulfobromophthalein and other hepatic function tests, coagulation tests (increase in prothrombin, factors VII, VIII, IX and X), thyroid function (increase in PBI and butanol extractable protein-bound iodine and decrease in T^3 values), metyrapone test, pregnanediol determination.

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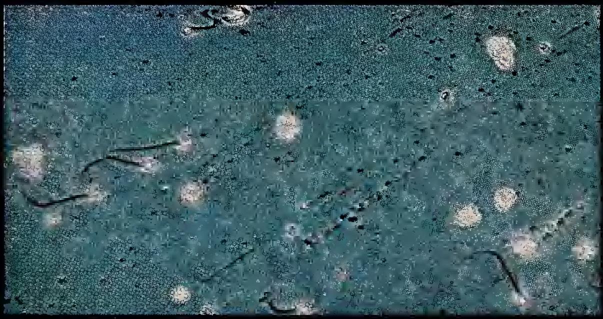
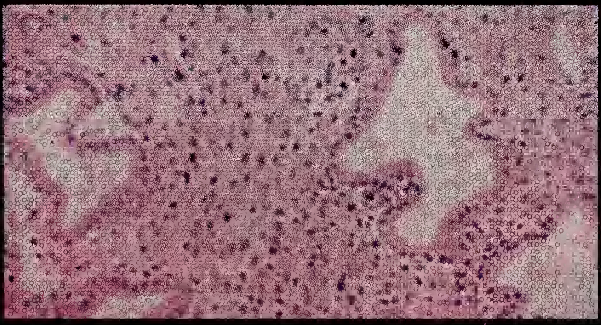
Untreated Patient

Cervical mucus at midcycle is usually thin and watery, with Spinnbarkeit (stretchability) of 15 to 20 cm.



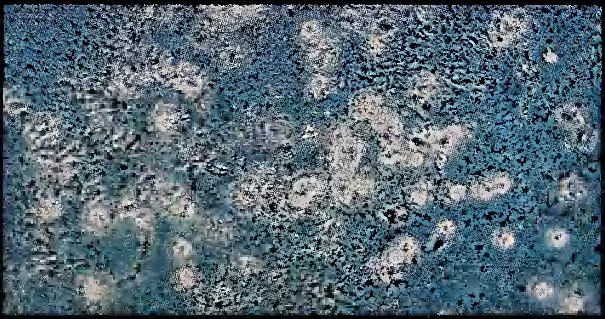
Spermatozoa appear healthy, active, freemoving.



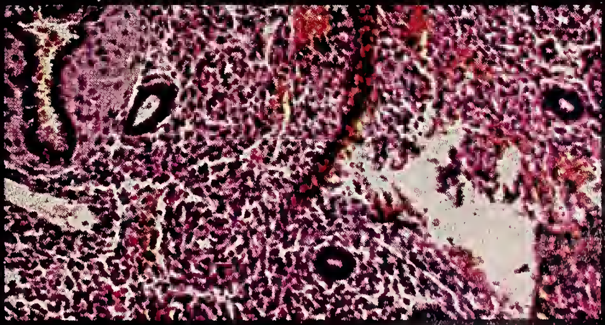
Endometrium of untreated patient is receptive to the fertilized ovum during secretory phase.

Norinyl-1 Patient

Cervical mucus at midcycle is scanty, viscous—with Spinnbarkeit of 1 cm. or less.



Immobile spermatozoa as they appear in cervical mucus taken from patient treated with Norinyl-1.



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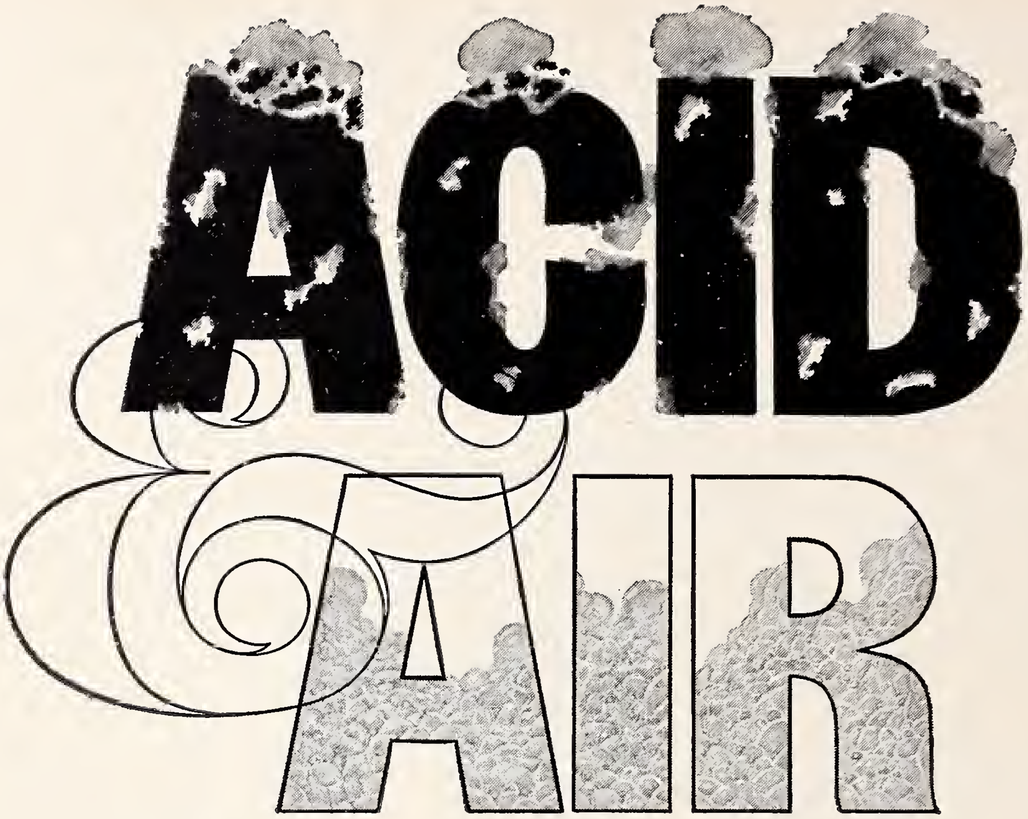

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Simple words, commonly and frequently used, and combinations of words in the English language, are a fascinating and intriguing study and pastime, especially if their meanings are usually taken for granted.

At this particular time, the entire Editorial Staff of ARIZONA MEDICINE would take the opportunity, in the English of cultural continuity and inherited pattern of thought, to invoke upon you all a festival season, extending from the celebration of the birth of our Lord to Epiphany, and hope that it would be marked by exceptional gaiety and favored by the greatest of good luck and fortune.

From the traditional to the colloquial.
WE WISH YOU
A VERY MERRY CHRISTMAS
AND
A VERY HAPPY NEW YEAR
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An uncommon steroid for common inflammatory dermatoses

In everyday topical steroid therapy, Synalar produces rapid resolution of inflammation and itching in steroid-responsive dermatoses—and at relatively low cost to the patient.

Advanced molecular design enhances potency

Synalar combines the advantage of earlier corticosteroid compounds with unique structural innovations. As a result, preparations of Synalar 0.01% and Synalar 0.025% have been reported to be more potent topically and significantly more effective than hydrocortisone 1.0%. The unique fluocinolone acetonide molecule provides one of the most useful topical corticosteroids for everyday practice.

Impressive clinical results in a wide range of dermatologic problems

The clinical efficacy of Synalar has been extensively documented in the world literature. Commonly encountered diseases such as allergic and contact dermatitis, eczematous and seborrheic dermatitis, and neurodermatitis respond rapidly to Synalar, often where previous therapy with other topical corticosteroids has failed.

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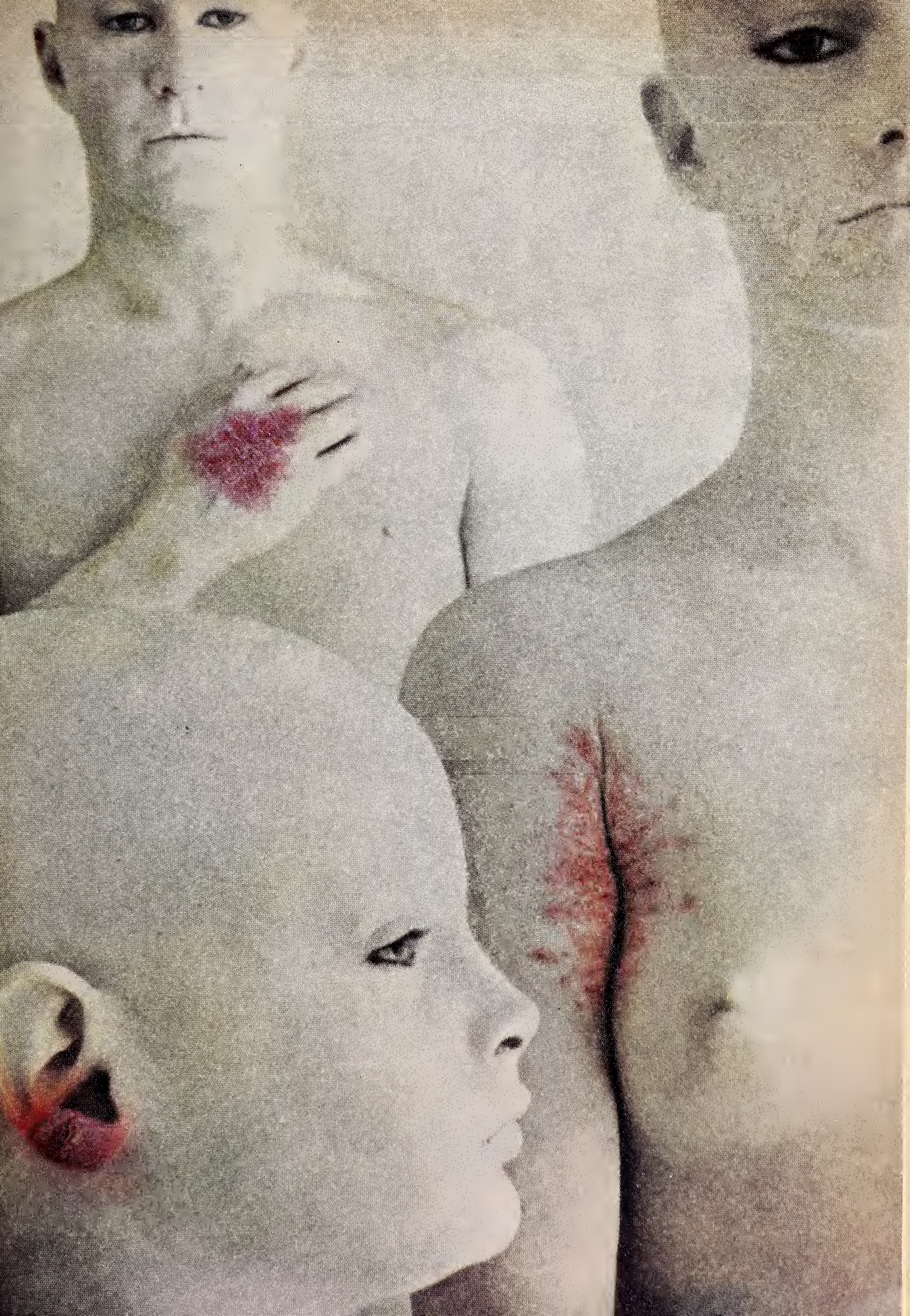

For everyday topical steroid therapy
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provides economy in two practical dosage forms

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Product Information

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PUBLIC RELATIONS COMMITTEE

Meeting of the Public Relations Committee of The Arizona Medical Association, Inc., held in the Central Office, Suite 201, 4601 North Scottsdale Road, Scottsdale, Arizona, Sunday, October 29, 1967, convened at 10:15 A.M., Richard O. Flynn, M.D., Chairman, presiding.

PRESENT: Drs. Dudley, Jr., Arthur V., President-Elect; Flynn, Richard O., Vice President and Chairman; Kahle, John F.; McKinley, Jr., William W.; Volk, Philip D.

Staff: Carpenter, Robert, Executive Secretary – ArMA; Robinson, Bruce E., Assistant Executive Secretary – ArMA; Boykin, Paul R., Executive Secretary – BOMEX.

Guest: Mr. Turner, John S., John S. Turner & Associates.

EXCUSED: Drs. Carlson, John S.; Clemans, III, William J.; Dysterheft, Arnold H., President; Fredell, C. Herbert; Heileman, John P., Secretary; Holsey, William F.; Lyle, William H.; Reger, Jr., Henry L.; Schoen, Roland F.

MINUTES

Minutes of the meeting of the Public Relations Committee held August 21, 1966, APPROVED.

ANNUAL MEETING PRESS RELATIONS

Dr. Flynn introduced Mr. John S. Turner, of the firm of John S. Turner and Associates, who presented his proposal for providing a complete press relations program for the 1968 Annual Meeting. His program would include:

a. A staffed press room.
b. Arranging interviews for T.V., Press Clubs, etc.
c. Preparing news releases on scientific papers and ArMA business matters.

His program would start about three months before the meeting, with a wrap-up following the meeting.

Mr. Turner pointed out that his firm is very cognizant of the "Code of Ethics" and its relation to news coverage. He continued to say that they have provided their services to the Arizona Bar Association.

Dr. Flynn pointed out that the Board of Directors has already authorized the $1,500.00 fee involved, and approved the general concept of this type of coverage.

Dr. Flynn directed that Mr. Robinson and Mr. Boykin are to work directly with Mr. Turner and his staff.

It was regularly moved and unanimously carried that we recommend to the Board of Directors that the firm of John S. Turner and Associates be retained for handling news media relations for the 1968 Annual Meeting.

BROCHURE

"The A.M.A., What has it done for you lately?"

The above captioned brochure, emanating from Colorado Medical Society, was presented and reviewed for the Committee by Dr. Flynn. The question of whether we should reproduce this brochure in volume was discussed.

It was regularly moved and unanimously carried that the contents of the brochure be used in excerpted form in "Medical Memos."

EXISTING PROGRAM REVIEW

Mr. Robinson reviewed the activity of present ongoing P.R. programs, including the following comments:

Physician Placement Service

Between 45 and 50 "Physicians Seeking Locations In Arizona" brochures are distributed every six weeks, and 60 to 80 "Opportunities For Location In Arizona" brochures are distributed every six weeks.

"Medicine in Territorial Arizona"

Copies of this book have been provided to all medical colleges in the United States.

Film Program

Sixty-seven films from the A.M.A. library have been provided to high schools, nursing schools, and boy scout troops.

Health Careers Film Strips

Twenty-six showings have been made since 10/10/66.

Title XIX Newsletter

This newsletter, a recent innovation, is going to 644 different individuals and organizations.

Medical Memos

Fourteen issues have gone to all (1519) members so far. This newsletter seems to be very well received by the membership.

Health Brochures Program

To date, 94,609 brochures have been distributed to 268 different schools.

Regional Medical Program

This brochure regarding the new Regional Medical Program in Arizona will be distributed to all (1519) members on November 1, 1967.

Health Tips

To date, 67,907 copies of Health Tips have been distributed to 557 schools.

OTHER BUSINESS

"Medicine in Territorial Arizona"

Mr. Robinson suggested that the Association provide copies of this book to the libraries of all high schools in Arizona.

It was regularly moved and unanimously carried that we recommend to the Board of Directors that copies of this book be provided to each high school in Arizona. It was also recommended that this book be made available to all new members of the Association.

Woman's Auxiliary

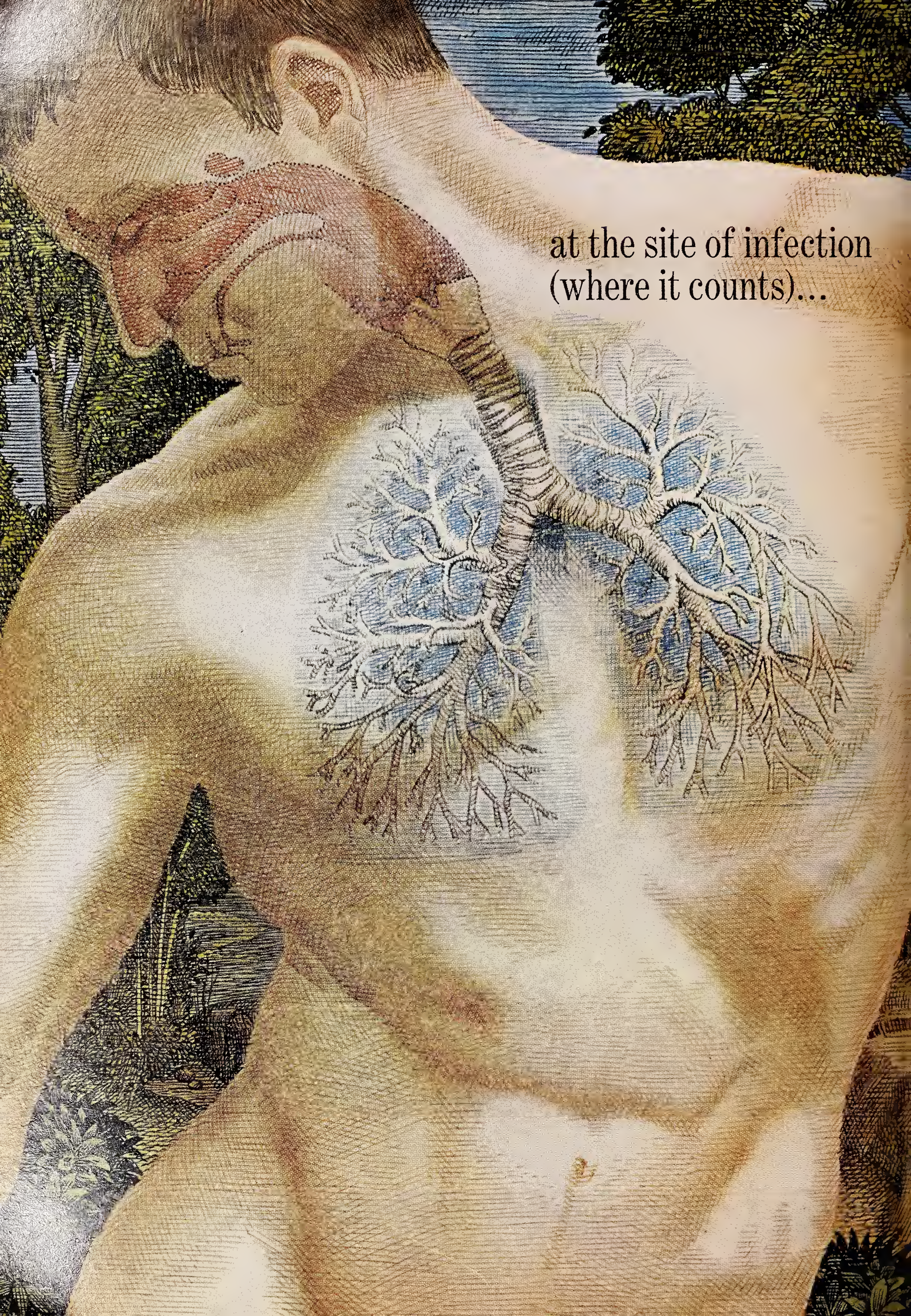
Dr. Kahle commented on a new trend of having the Woman's Auxiliary membership dues be made payable to the P.R. Committee for tax purposes. He pointed out that Hawaii has pioneered in this program. He stated that Mrs. Elvie B. Jolley, President of the Woman's Auxiliary to ArMA, would soon be contacting the Association with a proposal.

A general discussion ensued on the idea of making the Woman's Auxiliary dues a part of the doctors' Association dues. This procedure would force membership in the Auxiliary and increase the income of that group.

It was regularly moved and unanimously carried that this Committee recommend to the Board of Directors that they introduce a resolution to the House of Delegates at its 1968 meeting to increase the Association's dues $5.00 per annum, said $5.00 would be appropriated to the Woman's Auxiliary, and to discontinue the present policy of collecting Woman's Auxiliary dues on the county level.

MEETING ADJOURNED 11:30 A.M.

John P. Heileman, M.D., Secretary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Ilosone has shown no cross-resistance with penicillin and may be effective against organisms that have become resistant to that agent. Despite its high antibacterial activity, Ilosone has demonstrated a low incidence of side reactions. Blood dyscrasias, ototoxicity, and tooth staining have not been observed. Infrequent cases of drug idiosyncrasy, manifested by a cholestatic jaundice, have occurred, but there have been no known definite residual effects.

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It has been effective in streptococcus infections, particularly acute bacterial pharyngitis and tonsillitis; staphylococcus disease, including soft-tissue infections, furunculosis, abscesses, cellulitis, carbuncles, and wound infections; pneumococcus pneumonia and acute bronchitis with pneumococci on culture, bronchopneumonia, and otitis media.

In serious staphylococcus infections, erythromycin preparations should be used only in combination therapy with other antimicrobial agents; surgical procedures should be performed when indicated, and large doses of the antimicrobial agents should be employed.

Penicillin is the drug of choice for syphilis and gonorrhea, but Ilosone in multiple 500-mg. doses has been useful in patients with a history of penicillin allergy. Also, other infections due to susceptible bacteria in patients hypersensitive to penicillin or other antibiotics may be considered for treatment with Ilosone.

Contraindications: Known history of sensitivity to this drug; preexisting liver disease or dysfunction.

Adverse Reactions: Hepatic dysfunction with or without clinical jaundice has been reported infrequently. Changes in liver function tests indicative of intrahepatic cholestasis appear to be the result of individual idiosyncrasy. Findings subsided when treatment was discontinued. Occasionally, symptoms simulated extrahepatic obstructive jaundice or the colic of biliary tract disease.

When jaundice appeared to be related to use of the drug, laboratory findings were characterized by increased direct-reacting bilirubin, elevated alkaline phosphatase levels, negative or weakly positive cephalin flocculation and thymol turbidity tests, elevated serum glutamic oxalacetic transaminase levels, peripheral eosinophilia, and normal cholecystograms.

Gastro-intestinal disturbances not associated with hepatic effects and occasional allergic manifestations (urticaria, skin eruptions, and, rarely, anaphylaxis) have been reported. The normal intestinal gram-negative bacterial flora is not appreciably altered by erythromycin drugs.

Administration and Dosage: Ilosone is administered orally.

Infants and children under twenty-five pounds, 5 mg. per pound every six hours; twenty-five to fifty pounds, 125 mg. every six hours. Adults and children over fifty pounds, 250 mg. every six hours.

For severe infections, double the dosage. When larger doses are indicated, consider parenteral erythromycin therapy. In beta-hemolytic streptococcus infections, maintain treatment for ten days to prevent rheumatic fever or glomerulonephritis.

In syphilis, a total of 20 to 30 Gm. is administered in divided doses for ten to fifteen days. Close follow-up is necessary since erythromycin drugs have not had adequate evaluation in all stages of syphilis. Examination of spinal fluid is recommended during follow-up.

In gonorrhea, the dosage is 500 mg. four times a day for four days. Patients with a suspected lesion of syphilis should have a dark-field examination before receiving antibiotics and monthly serologic tests for three months. For detailed information, consult the package literature.

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*Base equivalent. [080967]

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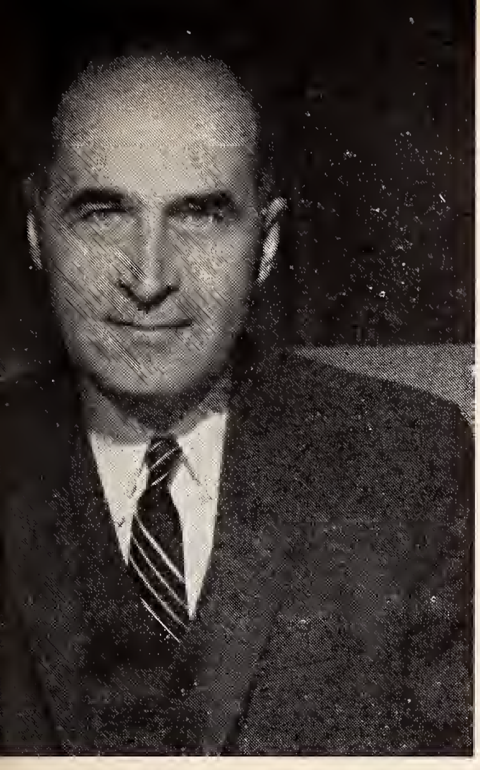

. Stewart Taylor, M.D.

Physiopathology of the Synthetic Progestogens

All birth control pills contain synthetic progestogens which are the contributing factors to many of the side-effects encountered. With over six million women taking birth control pills, it is imperative that the physician be knowledgeable in the physiopathology of these potent steroids.

IT IS estimated that between eight and ten per cent of women of reproductive age in the United States are taking the birth control pill. In Australia and New Zealand 20 per cent of women of the child bearing age are using one of the synthetic progestogens for birth control purposes. In England the percentage is 3.5 per cent while in India it is only about 1/20th of one per cent.[1] With over six million women taking the synthetic progestogens in the United States for birth control purposes there cannot help but be some minor and major problems associated with their ingestion. While discussing the complications of the birth control pills it is advantageous to review their metabolic effects.

All the birth control pills have essentially the same metabolic effect. It cannot be said that any one is really different metabolically than another. This also includes the sequential type, which consists of estrogen for 15 days followed by a synthetic progestogen for five to six days. The synthetic progestogens, used day five through 24 of each cycle, are compounds that are modifications of the basic formula of testosterone. This modified formula has a small amount of estrogen added to it.

What are the physiological effects when the birth control pills are taken?

The endometrium reaches its secretory peak on the ninth day of the cycle instead of the 22nd day of the cycle. This is an anti-fertility action. When the synthetic progestogens are continued in a cyclic fashion over several months there tends to be stromal hypoplasia and glandular hypoplasia.

If the patient has myomas they will grow rather rapidly under the influence of these drugs. I have seen myomas appear in a month's time while the patient was on birth control pills. These were myomas that were too small to palpate by pelvic examination before the pills were

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From the Department of Obstetrics and Gynecology, University of Colorado Medical Center, Denver.
Presented at the Arizona Medical Association, Scottsdale, Arizona, April 26 through 29, 1967.

given but which grew to six or eight centimeters in size in a short period. I consider a uterine myoma of any size a contraindication to this form of birth control.

Most women gain two to five pounds while taking these hormones. This is not happily accepted by many. The weight gain is more than simple fluid retention although this is part of it. There is actual deposition of fat in the breasts, abdomen, and hips. Pure edema is usually transient in amount but it does occur.

These birth control hormones are potent inhibitors of pituitary gland luteinizing hormone, and as such inhibit pituitary stimulation of ovulation. Inspection of the ovaries at laparotomy while patients are receiving cyclic progestogen therapy has revealed that ovulation has not occurred. Biopsy of the ovary at this time shows the ovary to be in a resting phase with no developing follicles or corpora lutea. The immature follicles are present but not active.

A further effect of the birth control pills is that they convert the cervical mucus to a hostile mucus instead of a friendly mucus. The effect on the cervical mucus, the endometrium, the ovary, and on pituitary gland luteinizing hormone are the effects of the synthetic progestogens which provide them their high efficiency in pregnancy prevention.

When explaining to a patient the effects of the birth control pills, I often tell them that the physiological effect produced by the contraceptive tablets is essentially the same as pregnancy itself.

One obvious example of this is chloasma, or melanoderma. The facial pigmentation of pregnancy disappears gradually after pregnancy ends. The facial hyperpigmentation caused by the synthetic progestogens does not regress in some patients. There has been an article published on the melasma induced by oral contraceptive drugs.[2] In this report 29 per cent of patients developed melasma as a result of the drug. I have seen some women who have been off the contraceptive pills for over a year and still carry the facial pigmentation. Sunlight appears to cause an exaggeration of the pigmentation. All types of birth control pills seem to be equally significant in the production of facial pigmentation.

Lactation after delivery may not stop while a patient takes birth control pills, but it often does. This is because of the suppression of pituitary action.

The biochemical effects of the oral contraceptives have been studied extensively. There is a slight increase in the excretion of urinary estrogens when patients take the synthetic progestogens and added estrogen.[3]

The largest controversy about the pills has centered around their effect on the blood clotting factors and their possible stimulation of thromboembolic disease. Hematologic studies have demonstrated a significant increase in prothrombin, fibrinogen and factors V, VIII, and X of the blood.[4, 5]

When the contraceptive pills are discontinued these blood factors all return to normal. Significantly, none of the patients studied for blood changes while on the hormones suffered from any thromboembolic disease. You will recognize that all the changes in blood factors mentioned here are found as physiological changes of the blood that are characteristic of normal pregnancy.

Women treated with large doses of the synthetic progestogens for the purpose of treating endometriosis and who later were treated surgically for this condition have not been reported to have developed postoperative thromboembolism.[6, 7]

The best study in the risk of thromboembolic disease in women taking oral contraceptive pills comes from England.[8] The mortality from thromboembolism attributable to the use of oral contraceptives was estimated to be about three per 100,000 per year. The annual death rate in England and Wales for women of the same age from road-traffic accidents was six per 100,000. It was further estimated that the risk of developing any type of phlebitis while taking the oral contraceptives was approximately half the risk of phlebitis that accompanied normal pregnancy and the puerperium. The general conclusion was that the oral contraceptive pills were associated with a small risk of thromboembolic disease that was greater than the risk among women of a similar age group who were not using contraceptive pills.

The 19-norsteroids increase cortisol, aldosterone and thyroid hormone binding by the albumin of the plasma.[9, 10] This is probably due to the associated estrogen. This means that the protein bound iodine test and the plasma corticoid levels will be elevated when patients receive the birth control pills. Likewise, the red cell uptake of tri-iodothyromine is depressed. The 17-hydroxycorticosteroid levels are increased for this reason, but the 17-ketosteroid excretion seems unaffected by the ingestion of these pills.

Carbohydrate metabolism has been investigated in a group of 105 women taking oral contraceptive pills and in a group of control women.[11] Eighteen per cent of the oral and 15 per cent of the intravenous glucose-tolerance tests were found to be abnormal. The mean fasting plasma glucose was unchanged. Elevated fasting plasma non-esterified fatty acid levels were noted and the fall after glucose administration was delayed. The most striking change observed was an increased fasting blood-pyruvate level and/or increased maximum pyruvate increment following glucose, occurring in about 20 per cent of women in the test group. These abnormalities are similar to those found in steroid diabetes. The incidence of abnormal tests is greatest in those women who had positive family histories of diabetes. These changes are very similar to those seen in normal pregnancy.

Some of the toxic effects of these synthetic steroids are nausea, vomiting, mental depression, irritability, increased premenstrual tension, leg cramps, loss of libido, acne, and hirsutism. Many of these are changes that may occur during a normal pregnancy.

Liver function tests such as transaminase, bilirubin, and alkaline phosphatase have been normal in most patients studied if the patients were receiving the contraceptive pills.[12] However, there have been occasional case reports of choleostatic jaundice reported for patients taking birth control pills.[13] This is similar to the idiopathic choleostatic jaundice that is rarely seen during pregnancy. In these instances the liver function tests become abnormal and only return to normal after discontinuation of the hormone pills.

Elevation of serum triglyceride, cholesterol, and low-density lipoprotein levels were described in a group of 102 women receiving oral contraceptives.[14] Thirty-one per cent of women had fasting serum triglyceride levels above 131 mg per cent, which was the greatest value among the control series. These changes in serum lipids and lipoproteins produced patterns like those characteristic of males. These changes may be relevant to the development of later atherosclerosis. The association of elevated serum lipid levels and atherosclerosis has been shown in both retrospective and prospective studies. The importance of increased serum lipid and lipoprotein levels and changes to male patterns in relation to atherosclerosis remains to be determined.

There is a significant decrease in venous tone in women taking these agents.[15] For this reason patients having varicose veins should not use these drugs.

Danforth's experiments in animals are interesting and significant.[16] He has shown uniform and specific effects in the aortic arch, descending aorta, cerebral vessels, and femoral vessels in response to pregnancy in the rabbit. These gestational changes appear early in pregnancy and are evident in smooth muscle, in the vascular reticulum, and in the elastica of vessels. Enovid, when administered in doses sufficient to inhibit ovulation in the rabbit, produces the same vascular changes seen in pregnancy.

Candida vaginitis is very common among women taking these pills for birth control purposes. The hydrogen ion concentration of the vaginal secretions changes from the non-pregnant to the pregnant levels while the patient is receiving these pills. Contraceptive pills or wide-spectrum antibiotic therapy seems to be behind 90 per cent of all monilia vulvo-vaginitis that I see, excluding pregnancy. As part of the treatment of monilia vulvo-vaginitis the birth control pills must be stopped before any form of treatment will succeed. A study of 24 patients receiving the progestogens showed that 91 per cent had a positive vaginal culture for monilia.[17] Only 16 per cent of a similar control group had a positive culture for monilia. Not all the 91 per cent or the 16 per cent were symptomatic but this small study illustrates how the bacterial-fungal flora of the vagina changes while patients take these pills cyclically.

The most significant and the most serious complication of the administration of these agents is the unexpected and prolonged secondary amenorrhea that may follow their administration. We have had 11 patients referred to us for study of secondary amenorrhea lasting six months to three years after discontinuation of the birth control pills. Complete endocrine investigation has shown no postive findings other than a low pituitary L. H. excretion. We have used clomiphene on several for the purpose of inducing ovulation, but no pregnancies and no re-establishment of menses have occurred. Six of these patients were women who had irregular and infrequent menses before the cyclic progestogens were given them for birth control purposes. Similar reports are now being made from other centers of similar cases.[18] I consider irregular and infrequent menstrual periods as a contraindication to the use of synthetic progestogens for birth control purposes.

In summary, I tell patients who ask for advice about the birth control steroids that their risk in taking these pills is about the same risk as that of normal pregnancy. A rare case of prolonged secondary amenorrhea may develop. A rare instance of thromboembolic disease occurs in the course of normal pregnancy, and this may happen very rarely while taking the pills. I also explain to patients that the synthetic progestogens when taken cyclically are capable of producing all the minor annoying symptoms of pregnancy since the pills produce the same physiologic changes as pregnancy.

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C. Herbert Fredell, M.D.

Carcinoid Tumors of the Gastrointestinal Tract

The author presents an excellent review of the literature on gastrointestinal carcinoid tumor, and reviews six cases of gastrointestinal carcinoid tumor treated at the Flagstaff Hospital during a seven-year period.

DURING the past one hundred years carcinoid tumors have been described, identified, and studied. In 1907 Oberndorfer named the tumor and noted that it had a histologically benign appearance yet had a malignant potential clinically. In 1914, Gosset and Masson termed the tumor an argentaffinoma to describe the tumor's affinity for silver salts when it is stained in the laboratory. Masson, in 1925, was the first to postulate the currently held concept that this tumor arises from the Kultschitzky cells which are found in great numbers in the bases of the crypts of Lieberkuhn of the intestinal mucosa.

Kultschitzky cells are found from the gastric cardia to the anus as well as in the epithelium of the gall bladder, ducts of the pancreas, mucosa of Meckels diverticulum, and the retroperitoneal area. They have also been reported to give rise to carcinoid tumors in testicular teratomas, bronchial adenomas, and ovarian tissue. Over 90% of carcinoid tumors are found in the intestinal mucosa. The commonest area of growth of a carcinoid tumor is the ileocecal region, particularly the appendix. They are the least likely to metastasize while those found in the intestine have usually metastasized by the time they are discovered.

Carcinoid tumors have been reported in 0.2% of routine autopsies and have been found to comprise 1% of all malignant tumors of the gastrointestinal tract. They comprise 8% of all malignant tumors in the small intestine. Multiple primary tumors have been noted to occur in

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one-third of the commonly found tumors of the small intestine while secondary neoplasms of other types have been found in 30 to 47% of all malignant carcinoid tumors.

Prior to 1939 there were no reported cases of carcinoid tumor that were diagnosed prior to surgery or autopsy. Since that time the number that have been diagnosed preoperatively and antemortem remains small.

The diagnosis of carcinoid tumor of the gastrointestinal tract is not easy for a number of reasons. The usual patient who presents himself with a potentially curable lesion has complaints of a low grade incomplete intestinal obstruction with transient and tolerable other complaints. Very often this patient has no obvious cause found for his complaint when examined. His symptoms are very often considered functional in nature. If the patient presents with complaints of incomplete intestinal obstruction, flushing of the skin, diarrhea, and hepatomegaly, the diagnosis of carcinoid syndrome is quite obvious. Unfortunately at that stage of the disease it is most likely out of control and management can only be palliative and noncurative.[12]

It was not until 1952, when Biorck noted systemic effects caused by the metabolic products of carcinoid tumor tissue that the carcinoid syndrome was recognized.[1, 18] Since that time many reports and studies have helped to unravel some of the complicated and inter-related action of several substances concerned with the symptomatology of the carcinoid syndrome. Serotonin, catecholamines, kinin peptides, and histamine have all been found to be interrelated in this multifaceted problem.

Serotonin has been more extensively studied than the other substances and is considered to be more largely responsible for many of the findings in a patient with a carcinoid syndrome. It is becoming more apparent that not all of the symptoms and responses to therapy can be ascribed solely to excessive serotonin and abnormal tryptophan metabolism.[3] Excellent reviews of known work concerning serotonin metabolism and the related substances have been published by Resnick and Gray,[15] Erspamer and Asero[4] and Dollinger and Gardner.[3]

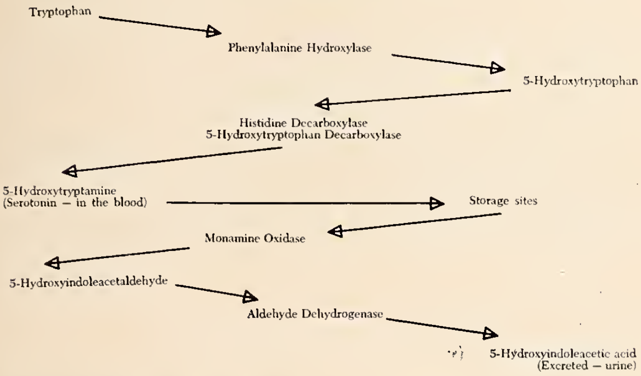
Large amounts of serotonin are produced by carcinoid tumor tissue. This makes heavy demands upon the essential amino acid tryptophan, which is normally utilized to synthesize protein and nicotinic acid. The small amount not normally used in this metabolic pathway is utilized to form serotonin which is normally metabolized and ultimately secreted in the urine in the form 5-hydroxyindoleacetic acid (Table I).

When a carcinoid tumor is present, as much as 60% of the available tryptophan is diverted to manufacturing serotonin, resulting in proportionately less amino acid available for normal use.[8] When tryptophan is utilized by the tumor tissue it is hydrolized in the cells into 5-hydroxytryptophan. This is then decarboxylized in the presence of Vitamin B6 to form 5-hydroxytryptamine or serotonin. The decarboxylase enzyme is found in high concentrations in the gastrointestinal mucosa, kidney, lung, brain, and carcinoid tumor tissue. Serotonin is found normally about 90% in the gastrointestinal mucosa and the remaining amounts in the blood platelets, brain, and spleen. Serotonin is carried in an inactive form in the blood platelets. Following platelet breakdown the active substance is released. Once serotonin is available in the active form it undergoes oxidative deamination in the presence of monoaminoxidase to form 5-hydroxyindoleacetic acid which is then excreted in the urine. Monoaminoxide is present in most tissues of the body but in high concentrations in the liver.

When serotonin excesses are released into the general circulation variable responses occur. These depend on many factors. The tumor tissue itself may have sudden bursts of outpouring of serotonin to complete cessation of release of serotonin. When the tumor has metastases in the liver the inactivation of serotonin will be incomplete and the caval circulation will contain sertonin which is then bathing the right side of the heart and its valves. Further incomplete inactivation occurs in the lungs and more serotonin continues into the general circulation which produces an additional group of symptoms. If the amount of monoamine oxidase production is great the symptoms associated with serotonin excess from carcinoid tumor tissue may not be apparent.[6, 12]

While most of the cases of carcinoid syndrome can be attributed to a primary carcinoid tumor in the small intestine with liver metastases there are exceptions to the rule. A large carcinoid tumor lying in the portal circulatory bed without liver metastases has been found associated with carcinoid syndrome as well as bronchial adenomas, oat cell tumors of the lung, certain adenocarcinomas of the pancreas, carcinoid tumors in the retroperitoneum, and tumors of the ovary and testicle.[3, 12]

Table I
SERATONIN METABOLISM



The symptoms of serotonin excess are numerous and variable. As the study of the carcinoid syndrome has progressed a veritable spectrum of active substances other than serotonin have been identified and found to be interrelated to the symptomatology of the carcinoid syndrome.[3]

The most common symptoms are vasomotor disturbances, usually flushing of the skin which may be initiated by eating, alcohol ingestion, or physical or emotional stress. Melmon[10] described one of the flush mediators in 1964 and called it kallikrein, which he isolated from carcinoid tumor tissue in a liver metastases. Since that time flush mediators have received considerable study. The flush phenomenon has been thought to be due to several substances in association with the kinin peptid metabolic pathway. The study of the carcinoid syndrome has elucidated the metabolic pathways of several substances.

Gastrointestinal manifestations of carcinoid syndrome are hypermotility, cramping abdominal pain and massive diarrhea. A disease entity called amine diarrhea with a high incidence of associated cutaneous flushing and peptic ulcer disease has also been described in association with carcinoid syndrome. The so-called dumping syndrome following gastric surgery has also been found to be related to amine abnormalities.[8] At times the massive diarrhea associated with serotonin excess or with amine abnormalities will produce kypokalemia and dehydration.

Mechanical features of intestinal obstruction or acute appendicitis due to the bulk of tumor tissue are often the symptoms that force the patient to seek medical help. The symptoms at times are a combination of the mechanical features as well as the metabolic effects of the tumor tissue.[8, 13]

Valvular heart disease resulting from pulmonary stenosis and tricuspid insufficiency or stenosis is an important feature of the carcinoid syndrome. Often the terminal event of a patient with the carcinoid syndrome is congestive heart failure. The heart disease found in a patient with the carcinoid syndrome is characterized by fibrotic plaques of free elastic fibers deposited on the endocardium of the valve leaflets, papillary muscles, and heart chambers.[16] Left sided heart lesions have also been recognized with and without a right-to-left intracardiac shunt. This has been explained by the liberation of serotonin from intrapulmonary metastases, yet it has occurred in the absence of these lesions on rare occasions.[12]

The presence of wheezing respirations and bronchospasm with associated air hunger has been described as due to the direct action of serotonin on the bronchial musculature.[6] Pulmonary hypertension without systemic effects has also been noted. Some of the acute phenomenon of pulmonary infarction has been attributed to serotonin release.[3, 6] The effect of heparin in preventing platelet breakdown has been thought to decrease serotonin release and thus affect the acute symptoms of pulmonary infarction. Similar effects have been noted in the non-heparinized patient with prolonged aortic occlusion when the circulation is restored to the legs, and leg pains occur.[8]

Edema and hypoproteinemia and skin lesions of Vitamin B6 deficiencies may occur with the carcinoid syndrome. Peculiar arthritic manifestations thought to be associated with a generalized connective tissue disorder found with carcinoid syndrome have been described.[9] Mental disturbances and abnormal emotional behavior have been described in association with the carcinoid syndrome.[3]

During a seven-year period at the Flagstaff Hospital a total of six cases of carcinoid tumor have been found. (Table II and III).

It is of note that the age ranges from 20 to 79. Four of the patients were female and the common presenting complaint was abdominal pain. In three of the patients the diagnosis was an incidental pathological finding. In one, the tumor was diagnosed prior to surgery and in two

Table II
Carcinoid Tumors of the Gastrointestinal Tract
Flagstaff Hospital 6/1/59 to 9/1/66
6 Cases

Case	Age	Sex	Symptoms	Diagnosis	Procedure
1.	52	F	Wheezing Respirations Abdominal Pain	G.I. Series Tumor intramural stomach	Gastrectomy
2.	20	M	Abdominal Pain	Appendicitis	Appendectomy & Meckels Divertic.
3.	67	F	Abdominal pain & distention	Intest. Obstruction	Small bowel resection & Appendectomy & Meckels Divertic.
4.	42	F	Rectal bleeding & Abdominal distent.	Carcinoma of colon	Colon resection Appendectomy
5.	63	F	Abdominal pain, vomiting, & distention. Past history of asthma flushing & diarrhea	Intestinal Obstruction	Ileocolectomy
6.	79	M	Abdominal pain Diarrhea & enlarged liver on exam.	Tumor of cecum Ba enema	Biopsy of liver

Table III
Carcinoid Tumors of the Gastrointestinal Tract
Flagstaff Hospital 6/1/59 to 9/1/66
6 Cases

Case	Age	Sex	Findings at Surgery	Pathology	Follow-Up
1.	52	F	Submucosal tumor of greater curvature of stomach	Carcinoid stomach no metastases	6 years
2.	20	M	Normal appendix and normal appearing Meckels Divertic.	Carcinoid of Meckels	7 mos.
3.	67	F	Tumor of small bowel, multiple adhesions. Normal appendix and Meckels Diverticulum	Endometrioma of small bowel. Carcinoid of Appendix and Meckels Divertic.	9 mos.
4.	42	F	Carcinoma of spenic flexure of colon. Normal appendix	Carcinoma of colon. Carcinoid of Appendix	2 years
5.	63	F	Tumor of ileum with implants throughout peritoneum with Liver metastases	Carcinoid of Ileum. Carcinoid of Liver	5 mos.
6.	79	M	Tumor of cecum with implants throughout peritoneum with Liver metastases	Carcinoid of Liver	died 6 mos.

patients the tumor was not diagnosed until after the abdomen had been explored.

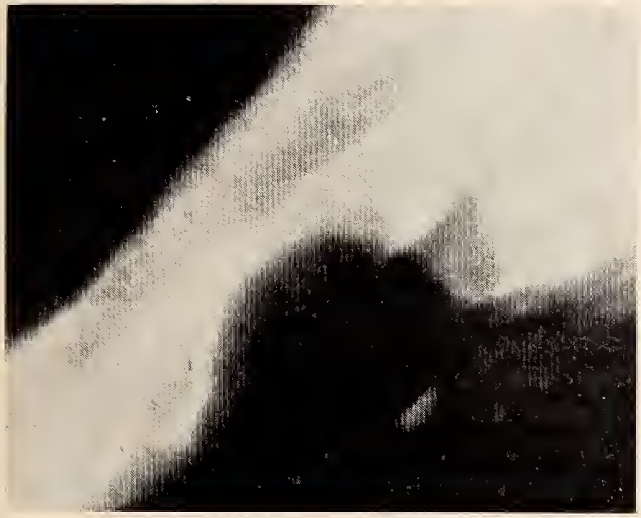
In two of the patients a carcinoid syndrome was present prior to surgery but was apparent only in hindsight. Both patients had incurable disease at the time of surgery.

The follow-up periods are too short to be significant except in the patient with a carcinoid tumor of the stomach who has been previously reported.[5]

Pathologically the tumors that were diagnosed at the time of surgery were typical in most respects. The tumor of the stomach was located in the submucosa with an umbilicated mucosa over it. Occasionally one finds mucosal ulceration over a gastrointestinal carcinoid. The small bowel tumor in this series had a fixed and shortened mesentery with regional lymph node involvement which is the rule for this location of carcinoid tumor.

Microscopically (Figures 1, 2, 3) one finds clumps and sheets of polygonal or rounded cells of uniform size and shape which have rounded nuclei lying in scanty fibrous stroma. Mitoses are frequent. Cytoplasmic granules are located below the nucleus close to the basement membrane. When large clumps of cells are found, the periphery may be bordered by a layer of columnar cells presenting a palisade appearance. If an ammoniacal silver stain is used after the tissue has been fixed with formalin the cytoplasmic granules are black.

The surgical procedures in this series varied in scope depending upon the gross pathology present at the time of surgery. In case six only a liver biopsy was done because of the patient's poor general condition. The case of the carcinoid syndrome due to an ileal carcinoid with metastases had an ileocolectomy and is currently receiving intensive chemotherapy with good response.



LEGENDS

Figure 1. This photograph of an upper gastrointestinal roentgenographic study with barium demonstrates a submucosal tumor of the body of the stomach which was suspected to a carcinoid prior to surgery. Other intramural tumors could not be excluded, such as leiomyoma, lipoma, or extra gastric tumors.

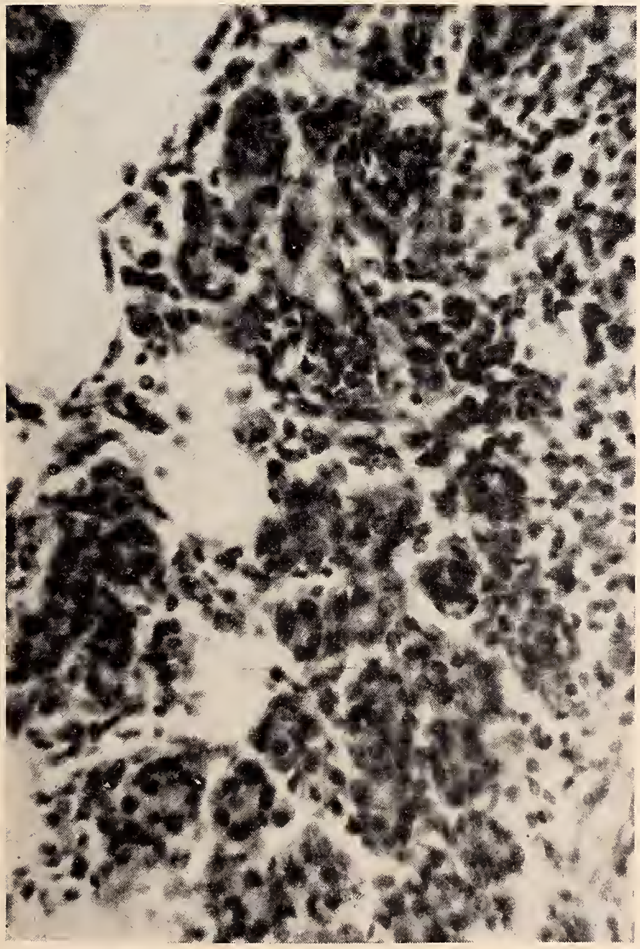


Figure 2. This photomicrograph demonstrates the carcinoid tumor tissue arranged in clumps. Homogeneity is noted in the cellular size and appearance.

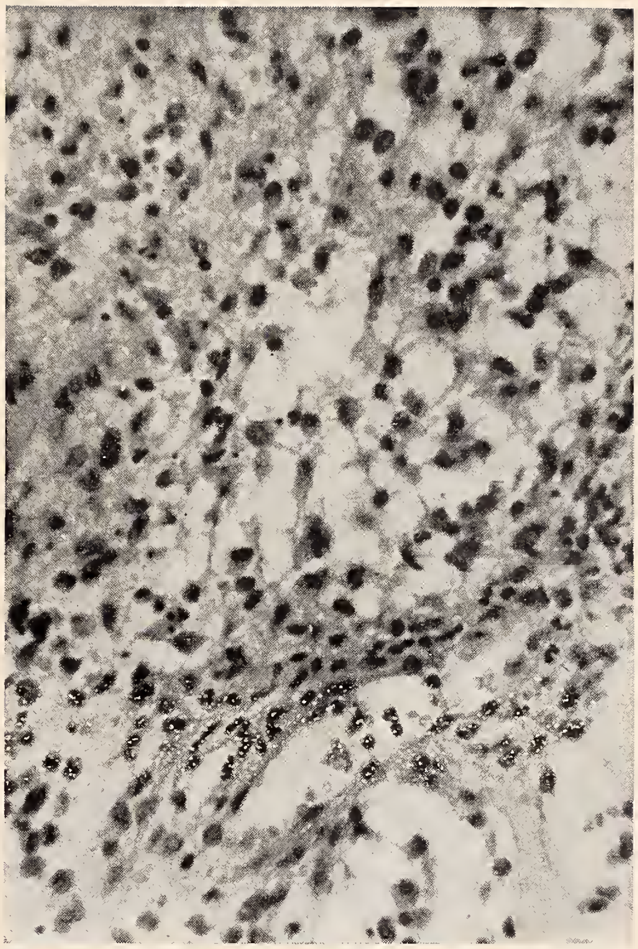


Figure 3. This photomicrograph demonstrated the carcinoid tumor cells arranged in scanty fibrous stroma. The round and polygonal nature of the cells can be seen.

In that case the symptoms which brought the patient to a final diagnosis were those of intestinal obstruction. She had been under the care of several physicians during the preceding year for predominant symptoms of asthma with one physician and diarrhea with another physician, and cutaneous flushing and peculiar sensations in her hands with another physician. It was not until all of her preceding complaints were compiled and regarded under one problem that it became apparent that she had a carcinoid syndrome. When the tumor was found at surgery and an ileocolectomy was done, an immediate urine assay test revealed markedly elevated 5-hydroxyindoleacetic acid levels. She was placed on chloropromazine postoperatively with relief of her symptoms of flushing, diarrhea and asthma.

Not unlike many diagnoses, "a carcinoid thought of" by the physician is often "a carcinoid diagnosed" by that physician.

If a carcinoid tumor is suspected the physician should obtain a 24-hour urine specimen soon after the onset of symptoms for 5-hydroxyindoleacetic acid analysis. A repeat determination should be done before a negative examination is acceptable. False positive determinations can occur after the patient has ingested mephenesin or acetanilide. A simple screening test can be used by adding 1-nitroso-2-naphthol nitrous acid and ethylene dichloride to an aliquot of the 24-hour specimen. If a purple color results indoles are present.[17] A more refined quantitative determination can be done. The normal output is 2 to 9 mgm. per day. An excretion of more than 15 mgm. is suggestive and more than 25 mgm. is diagnostic of a carcinoid tumor. Serum levels of serotonin may be determined, but are more complicated and time consuming. Normal serum levels range from 0.1 to 0.2 micrograms per ml.[15]

The treatment of carcinoid tumors must be directed to surgical extirpation of the primary tumor with the adjacent lymph node containing portion of tissue. Since most of the carcinoid tumors are found in the vermiform appendix and are completely removed by appendectomy, the malignant potential of this tumor has been minimized by many physicians. Although a carcinoid tumor is slow to grow and metastasize, it must be regarded as capable of producing the same or a worse clinical setting than other malignancies of the gastrointestinal tract.[14] When the carcinoid syndrome is present the treatment can only be directed to palliation. Surgical palliation has been achieved by resection of the primary tumor and metastatic deposits. Hepatic lobectomy for metastatic deposits has been proposed as a limited measure to control some of the symptoms of carcinoid syndrome.[20] To date, the carcinoid syndrome has been uniformly fatal.

Because of the poor outlook for a patient with carcinoid syndrome, a variety of substances has been studied and used to treat the symptoms of this syndrome. They act in different metabolic phases of the tryptophan to indole metabolic pathway. In many patients temporary relief has been achieved by several substances but the responses have been inconsistent and unpredictable.[19]

The use of some alkylating chemotherapeutic agents has been of value as have some antimetabolites. Monoaminoxidase and decarboxylase inhibitors have also been of some help. The blocking of the effector cell by chloropromazine has been considered to be one of the more successful methods of therapy. The use of desoxypyridoxine to compete with Vitamin B6 has also been used. The use of radioactive tagged tryptophan to produce cancerocidal effects on the tumor tissue has been tried. The rapid turnover of this material hampers its effectiveness.[2]

The use of 5-fluorouracil and methotrexate has offered promise in its recent usage. While chloropromazine has been moderately effective in controlling the flush symptoms, cyproheptadine hydrochloride seems most effective in controlling diarrhea and abdominal cramps. Methysergide maleate and methyldopa produces good results but have such disagreeable side effects that they are not often used.[12]

The prognosis of carcinoid tumors varies with the stage of the disease when first treated. If the tumor is an incidental pathological finding in the appendix or Meckels diverticulum, the disease is usually cured. In only one of the 31 incidentally found lesions reported by Ostermuller and Joergenson was there gross evidence of malignancy.[13]

If the patient is first seen with a carcinoid syndrome and a non-curative surgical resection has been done, the outlook is not as bad as one might suspect. Moertel[11] studied 50 patients with carcinoid tumors in which 28 had curative resections done. Sixty-eight per cent were alive five years later. In the 11 cases without metastases at the time of surgery, 64% were alive in five years. In 17 patients, metastatic disease was present at the time of surgery for cure. Seventy-one per cent of these patients were alive five years later. However, in 22 patients a curative resection was not possible. Twenty-seven per cent of these patients were alive five years later. In the 14 patients with liver metastases, 21% were alive five years later.

McKirdie[8] reported 88 cases of carcinoid tumor and noted that the small intestine was the site associated with the poorest prognosis, since 84% of his cases had metastases at the time of surgical therapy. Twenty per cent of them were alive five years later. Ostermuller and Joergenson[13] reported 46 patients with carcinoid tumors of whom only four had a carcinoid syndrome. McKirdie[8] noted that only 35 carcinoids of the Meckels diverticulum had been reported in the literature until he added an additional case.

Summary

1. A brief review of the pertinent recent papers concerning carcinoid tumors of the gastrointestinal tract and the biochemistry and symptomatology of the carcinoid syndrome has been presented.

2. During a seven-year period, six cases of carcinoid tumor of the gastrointestinal tract have been treated at the Flagstaff Hospital, one case of carcinoid tumor of the stomach, two cases of carcinoid tumor of the small intestine, two cases of carcinoid tumor of a Meckels diverticulum and one case of carcinoid of the appendix. Two of these cases had a carcinoid syndrome present at the time of surgery.

3. It is now apparent that carcinoid tumors are uncommon and that carcinoid tumor with carcinoid syndrome is a rare finding. The incidental pathological finding of a carcinoid tumor of the appendix or Meckels diverticulum is associated with a high rate of cure with simple resection, while a carcinoid tumor of the small intestine is seldom present without metastases. If the surgeon is presented with a small intestinal carcinoid with extensive metastases he should resect the major part of the tumor because the patient will have a prolonged period of useful existence.[12] The adjunctive medical and chemotherapeutic management of the carcinoid syndrome will contribute greatly to the comfortable time remaining for the patient. Hopefully the intensive studies and trials of agents will yield a tumorocidal substance that will cure the carcinoid syndrome in the near future.

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FLUIDS DURING SURGERY

This paper constitutes an excellent review of a very controversial subject, "Fluids During Surgery," and specifically tries to point and concisely present this very difficult problem. This is a very controversial area and a review such as this is extremely important.

ABOUT 1940 there was general recognition that fairly large volumes of blood were lost at surgery and that patients who were transfused at that time recovered more easily than did those who did not receive blood. The concept developed that the patient should be given a quantity of blood equal to that which was lost, and methods were then devised to measure this accurately so the physician might be better able to approach the "ideal" amount of blood replacement. Many determinations were made of the quantity of blood lost during various types of surgical procedures[1] with the idea that this was what should be replaced to the patient. The earliest generally accepted method of determination of blood volume was that using Evans Blue dye. A measured quantity of dye was injected and its concentration in blood plasma was measured after a period of mixing, thus giving a measure of the degree of dilution of the dye and concomitantly a measure of the volume of blood plasma. This was fairly satisfactory if only a few determinations were done, but the dye was not eliminated fast enough to permit avoidance of a blue appearance if several measurements were made close together. Nevertheless, it permitted some valuable data to be obtained about changes in blood volume during the surgical period.

Blood loss had also been estimated directly, by adding that found in suction bottles with what was estimated to be on sponges and drapes. Many cases of discrepancy between blood loss as determined by measurement of blood volume and that by "direct" measurement occurred. Storey[2] was able to account for only about half the blood volume change (dye) when he estimated that found outside the body. Forsee et al[3] found about the same difference for thoracic procedures. In our own clinic it was believed that these discrepancies were due to poor estimations

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of what was lost at surgery, so Pearcy[4] attempted to make more accurate determination to see whether he could attain values closer to those previously reported. By this time the use of Radioactive iodinated serum albumin (RISA)[5] had become available for determinations of blood volume, which permitted serial determinations to be made because no color was involved, and the quantity of radioactive material was negligible. Pearcy's average difference between blood loss estimates by the "direct" method and the use of RISA were 30%, which was perhaps a little better than the 100% differences previously reported, but not close enough for clinical comfort. This still left a quandary about blood replacement.

Stewart[6] had measured blood volume and extracellular fluid volume simultaneously. He calculated, using thiocyanate as an indicator, that the extracellular fluid had actually increased during surgery while the plasma volume was diminishing. Aronstam[7] reported similar findings.

Coller and Maddock[8] measured the amount of fluid lost by evaporation and determined the insensible loss during some abdominal surgical cases to average about 140 cc per hour, depending largely on the amount of drapes used during surgery.

Moore, in his "Metabolic Care of the Surgical Patient" advised that 500 cc of 5% glucose in saline be given during surgery, for sodium was better excreted during surgery if some sodium was administered.

There is evidence that fluid may migrate rapidly from tissues into the vascular system after blood loss, thereby replacing volume necessary to maintain tissue perfusion. If this replacement is rapid, tissue will lose electrolytes rapidly, and blood volume will not diminish to the extent of the blood loss. Moreover, if blood should be replaced volume for volume with whole blood, the non-diffusible material (protein) of the blood may raise the osmotic pressure greatly enough to draw fluid still further from the tissues and produce a congested vascular system and perhaps even cause cardiac failure. For these reasons, Shires[9] has advocated that the first quantities of blood lost might better be replaced by a somewhat hypotonic electrolyte solution (Lactated-Ringer solution) (hereinafter L-R). Shires' results were promising enough so their concepts have been widely accepted, and physicians who have used L-R in large quantities have been pleased with the condition of their patients, realizing at the same time that considerably less blood than formerly could be used. It has been surprising to observe what relatively large quantities of this electrolyte solution can be given with seemingly beneficial effect, and without causing congestion. Use of 10 cc/kg. the first hour of surgery, followed by half that much each hour thereafter has produced very favorable results. Lactated Ringer solution contains, in milliequivalents one liter: Sodium 128, Chloride 110, Potassium 4, Lactate 26, Calcium 2, Magnesium 2.

Composition of commercially available lactate Ringer solutions may differ slightly. The solution is obviously a little hypotonic, for an isotonic solutionc solution contains 154 mEg/l. The lactate ion can be burned by the body and eliminated as CO_2 and water, leaving a "fixed" base excess, because the cations cannot be exhaled.

No specific point at which whole blood must be given rather than an electrolyte solution has been defined. However, most patients can have at least the first 500 cc of blood loss replaced by L-R. This is less likely to be true in patients with low hematocrits. There is much evidence, however, that with adequate maintenance of blood volume patients may get along quite well without a high concentration of red cells. For example, a patient at Pennsylvania[10] had a bleeding ulcer that produced eventually 2.4 gm. of hemoglobin. The patient was a Jehovah's Witness, and refused blood or plasma. He was operated and survived. At our own institution a patient who bled profusely on removal of a brain tumor was given 84 units of fluid, less than half of which was blood. By means of our actively supporting vascular volume the patient recovered nicely with no deficit from blood loss. Shires' group has used only two units of blood in a series of 100 gastrectomies.

Shires[9] carried out a series of fluid measurements before and after abdominal surgery during which electrolytes were NOT given. Their data indicated that considerable functional extracellular fluid volume (FECV) was lost into the tissues, and the loss was roughly proportional to the degree of trauma as estimated by the surgeon. He therefore advocated the use of electrolyte, preferably lactated Ringer solution, to make up for this loss. In four of his 12 cases the FECV loss approximated 3000 cc. Shires had measured plasma volume with RISA, red cell volume with Cr^{51}, and FECV with S^{35}. We became interested in these reports, and decided to find whether or not these phenomena were generally true and consistent. Our patients were 25 in number, all having cholecystectomies. They were each given a measured diet, and their calorific and fluid intake and output were carefully measured.[11] Body weight was measured daily to within 10 grams. The patients were on this regime for 60 hours before surgery, and were followed in this fashion for 72 hours following surgery. All were given the same type of anesthesia. Six patients made up the control group, which received only sufficient fluid at operation to maintain an open intravenous route; a second group received lactated-Ringer solution; a third group had 5% glucose, and the fourth group was given normal saline. Infusions of these electrolyte solutions were made at the rate of 15 cc/kg the first hour of surgery, and half that much each succeeding hour. FECV and blood volumes (RISA) were measured each morning, and just before and just after surgery. The patients were also weighed at these times. Insensible loss was determined for each period between weighings. Our results were similar to those of Coller and Maddock, for our subjects undergoing cholecystectomies in air-conditioned operating rooms lost approximately 150 cc per hour insensible loss.

so that each patient gained a little weight during surgery, but the gain was less than the quantity infused. Likewise, the FECV rose during each surgical period, but the rise was less than the quantity of fluid infused.

How much fluid, then, should be given during surgery? We have no specific answer. We do know that we can safely infuse enough to permit the patient to gain a little weight. Any patient that has been "NPO" the night prior to surgery has been losing weight. How much weight should we give him at surgery? All our patients gained weight in the 24-hour period following surgery, due to the large volumes of fluid infused, and perhaps to a somewhat smaller urine output than on other days. The patients again lost weight during the next two days. If one realizes that a patient who has not had fluid overnight nor for breakfast has lost 500 Gm. insensibly, and that the patient loses 150 cc/hr during surgery, then at the end of a two-hour operation that person should have had 800 ml of fluid to just be even, not counting any blood loss or urine output.

Infusion of a liter of fluid within two hours, then, is only par for the course and is not a matter of overloading. Until recently, however, this was more than was wont to be given in many operating suites.

Weight and Fluid Changes During the Operative Period

Type of Fluid	Fluid in ml.	Measured fluid out ml.	Wt. change Gm.	Insensible Loss Gm.	Blood vol. change (RISA)	FECV change ml.	Fluid from tissues ml.
Control	92*	242	-533*	383	-454	-268*	265
L-R	1970	448	1200	322	33	1304	104
Glucose	1789	324	871	594	-107	1140	269
Saline	1722	290	800	632	-327	1303	503

* $p < 0.001$

Original weight + fluid in — measured fluid out — final weight = Insensible loss.

Fluid in — fluid out (blood, drainage, urine, insensible loss) — FECV gain = fluid FROM tissues (when negative).

Our data failed to show any great losses of FECV into the tissues. In fact, in order to account for the fluid which disappeared as the insensible fraction it was necessary to conclude that fluid came FROM tissues. In none of the groups into which fluid was infused did there appear any increase in fluid of tissues at the expense of FECV. We did infuse sufficient fluid

A problem which is receiving much attention is the matter of transfer of virus hepatitis by transfusions. Data vary from findings that have negligible significance to a matter of nearly 1% mortality. If transfusions are avoided, this not insignificant danger will be offset. In many cases it is possible to give six-months-old plasma[12] instead of blood so as to have the same oncotic value. The supply of this material presently goes to the armed forces, but much of the problem of hepatitis could be avoided if blood were deliberately kept for 6 months at 0°C. As to volume, this might require nearly twice as much blood, but doubling the expense of a transfusion is much less than caring for funeral expenses after hepatitis. Ordinarily a subject can lose one unit of blood without need for replacement other than by electrolyte. A second unit can well be replaced by old plasma. Using this concept, most of the patients in surgery could be cared for without receiving whole blood. In the more drastic cases blood might be required, but even this may be diluted if volume is maintained.

Criteria for reaching an adequate quantity of fluid have in the past been simply blood pressure and pulse. Presently the central venous pressure is the best indicator that is easily available. One should remember that this pressure, when 15 cm of water is approached, lags a bit behind vascular filling, and if the pressure rises to be near this value further infusion may produce congestion of the cardiopulmonary system. Hardaway[13] et al have shown that pulmonary arterial pressure is a more rapid indicator of adequacy of blood volume, but this determination is ordinarily unavailable.

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Anterior Excision of Ruptured Cervical Discs

by
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THE classical or complete posterior cervical laminectomy for the removal of lesions of the cervical spinal cord and other intraspinal structures described by Stookey[1] and Elsberg[2] was a standard procedure from the beginning of the century until the last few years. During this period of time, no other approach to the cervical intervertebral disc was developed in spite of the fact that great difficulties were often encountered in dealing with large ruptured cervical discs.

Hazards are compounded by the posterior approach if the ruptured disc is firm, if it is overlapped by osteophytes that encroach upon the spinal cord, if it is large or medially placed or if it is one of several discs so involved. Multiple ruptured discs are much more common than was formerly recognized.

When these conditions are approached posteriorly, they require hemilaminectomy or complete laminectomy. During this procedure, intraspinal structures may be damaged by handling, any compression of the spinal cord existing before

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operation may be increased, the enveloping dura, nerve roots or the spinal cord may be accidentally damaged, and deficiencies of neural function may result from spinal cord retraction.

Even after adequate exposure of the lesion and removal of the protruding discs, other operative hazards are numerous, and the chance of damage to the neural structures is increased. The disc space must be explored for additional fragments that must be removed; if lateral or medial osteophytes have developed around the ruptured disc, they must be chipped away by hammer and chisel. Deep incisions made posteriorly in the neck result in muscle and proprioceptive disabilities that cause patients to be dizzy and unsteady for months and often to walk with such a wide base that they may require a cane.

One of the first modifications of this operation, the simple "buttonhole" posterior cervical laminectomy,[3] involves few hazards and brings about gratifying results if the disc is solitary, small, soft, and ruptured laterally against a single nerve root. Unfortunately, most cervical intervertebral discs requiring removal are not so placed; nor are all discs soft and easy to remove.

A review of the literature will reveal no reference to an anterior approach to the problem of ruptured cervical intervertebral discs until the 1958 publications of Smith and Robinson,[4] Dereymaeker and Mulier,[5] and Cloward.[6] These and other surgeons determined that most of the cervical portion of the vertebral column could be easily reached surgically by the anterior approach. Smith and Robinson, and Dereymaeker and Mulier developed an anterior approach primarily for removal of the disc and interbody fusion. The fusion was brought about by placing a plug of bone between the vertebral bodies. Cloward, however, not only designed an anterior procedure for removal of the ruptured disc and interbody fusion but added the refinement of nerve root and spinal cord decompression. After removing the disc and making a drill hole through the disc space, he proceeded with a small angulated curet to remove whatever osteophytes were in the mid line posteriorly and to extricate any osteophytes formed posterio-laterally in the nerve foraminae. In order to secure firm fusion and to prevent slipping, he used a large, round plug of bone; that is, large in relation to the size of the vertebral bodies being fused.

Between May 1958 and October 1965, 360 cases were selected for anterior excision of ruptured cervical discs.[7] These cases form the basis for the discussion and conclusions that follow.

Most of the cases selected for operation represent persons who are in the third to the fifth decade of life; to them the ability to carry on gainful employment is of supreme importance. Other cases, because of pre-existing infirmities of age, paralysis, and emotional or psychotic behavior, are concerned only with the relief of pain and restoration of the kind of living normal to them before their need for cervical disc surgery developed.

Basis of Selection

Patients are chosen for the anterior operation with symptoms that are intractably disabling; these are only partially relieved by the usual forms of treatment and become aggravated with discontinuance of therapy.

Many problems are encountered in this selection. The history and physical examination uncover the most vital information but may need to be repeated a number of times to establish their accuracy.

Often the physical examination may be very nearly negative, especially with regard to sensory, motor and reflex changes. Symptoms may be wholly subjective if the affected disc is deranged and not retropulsed. If a patient is malingering, it may be difficult to determine the accuracy of his symptomatic complaints. Repeated painstaking historical reviews and physical examinations usually reveal discrepancies that establish any falsity in complaints and findings.

Other patients with intractable pain almost as difficult to verify and treat are those who have gone from one physician to another without relief. Too often they are labeled neurotic because of their tenseness and told to seek psychiatric help. Psychiatrists often disagree with both the diagnosis of neurotic disorder and the need for psychiatric therapy. Unwarranted psychiatric care then not only delays the institution of proper therapy but instills so much doubt and loss of confidence that patients may refuse to believe any definitive therapy is available and may, after successful operation, reject for months the possibility that their relief is permanent. During this postoperative period, such patients require maximum reassurance.

Patterns Indicating the Need for Surgery

There are five major patterns of clinical symptoms which, correlated with supplementary laboratory and special testing, may indicate the need to operate upon a patient with a ruptured cervical disc. In four of these patterns, the symptoms appear to be below or distal to the lesion; however, in a fifth instance, the compression or irritation of the vertebral artery and vertebral nerve, the symptoms appear above the lesion — the latter often may mistakenly be construed as of intracranial origin.

1. The first pattern results from compression or irritation of a single cervical nerve root in the nerve foramen by posterior and lateral disc herniation, or by osseous spurring in or about the so-called joints of Luschka or the facets. As a nerve root is composed of both motor and sensory nerve fibers, compression and irritation of the fibers result in varying degrees of muscle weakening and wasting, partial or complete loss of feeling in a defined area, and reduction or loss of deep tendon reflexes and pain in the area supplied by that nerve root — a pattern best described in the publications of Dr. J. Jay Keegan.[8]

2. The second pattern is produced by compression of the spinal cord resulting from cervical disc herniation, mid-line posterior osteophytes and even from disc sequestration into the spinal canal. This compression is followed by symptoms of spinal paralysis below the site of the compression. At the level of the spinal cord compression, the patient usually experiences radicular pain. Below this level, he will experience varying degrees of muscle weakness and even paralysis, and sensation will correspondingly be reduced or absent. Reflex changes will vary with the degree of paralysis. Varying amounts of bladder and bowel dysfunction may be present.[1, 2, 3,]

3. Interference with the patency of the vertebral artery by compression or reflex spasm[9] accounts for the third group of symptoms.

The vertebral artery and vertebral nerve may be involved by compression or irritation as they course through the transverse foramen in the transverse processes on either side of the upper six cervical vertebrae if the disc and supporting structures give way and allow excessive motion to take place or disc ruptures to compress the artery. These patients may suffer from acute or chronic symptoms as a consequence of interference with the blood supply to the brain stem. Acutely they may develop light-headedness, dizziness, staggering, acute episodes of headache and occasional loss of consciousness, but they may also have long-standing diplopia, blurring vision, nystagmus, nausea, vertigo, numbness of the face and disturbances of hearing. While these symptoms are largely subjective, they may prove to be the only clue to the disc abnormality caused by the impairment of the vertebral artery blood supply.

4. Repeated stretching or tearing of the annulus of the disc in disruptive disc injury or disease causes pain and muscle spasm that constitutes the fourth pattern of symptoms. According to most anatomists, the nerve supply to the disc structures is limited to a sensory nerve in the annulus of the disc. Repeated anatomical studies have failed to reveal any nerve fibers within the central disc structures. The main sensory nerve fibers run around the surface of the annulus of the disc with fibrils entering it at intervals. Each lateral half of the disc annulus is supplied by a separate sensory nerve fiber that can be traced back to its corresponding sensory nerve root. With stimulation of this nerve, pain and muscle spasm occur. The pain is in a specific area near the patient's scapula in the posterior chest region, in his neck, across his shoulder and down his arm to his elbow. Painful muscle spasm develops in the muscle groups receiving their motor nerve innervation by way of the motor nerves originating from the same myoderm as the disc stimulated.[10]

5. Finally,[11] the fifth pattern, disorientation of the body in relation to its parts, a proprioceptive disorder, may originate from abnormal stimuli in the neck in cases of neck injury. Such patients complain of insecurity as they walk or move about, of being unsure where the next step is as they walk down steps, or difficulty in determining whether the ground is rough or smooth, of loss of grip if they look away while holding an object in their hands, of not knowing where their extremities are.

Early experiments with decerebrate rigidity demonstrated that most of the body-righting reflexes in decerebrate animals received their proprioceptive impulses from torsion of the neck muscles. These impulses reach the central nervous system through the first three cervical nerves. The reflexes disappear when these three cervical nerves are blocked by local anesthesia or cut bilaterally.

Since this proprioceptive function of orientation is similar to the vestibulocerebellar function, it is almost impossible to separate the two functions clinically and to evaluate them without sectioning the first three cervical nerves bilaterally, although the first is a function related to gravity, and the second a relationship of the head to the trunk. One doctor has devised a collar that fixes the head to the body to be worn during the examination to eliminate torsion-proprioceptive stimulations.

Additional Symptom Patterns

In retrospect, we find that certain patterns of symptoms not previously suspected to be of disc origin have been identified by discography and consequently relieved by disc excision and fusion. Vertex headache has been relieved by C2-3 and C3-4 disc excision and fusion, diffuse basilar headache by C4-5 disc excision and fusion, anterior chest pain by C5-6 and C6-7 disc excision and fusion, and lower chest constriction and shoulder and arm pain by C6-7 and C7-D1 disc excision and fusion. Symptoms not so well localized, such as blurring vision, tinnitus, dizziness, unsteadiness, and lightheadedness, neck and shoulder pain, and parasthesia in the upper and lower extremeties, face, head and neck, have been relieved by operation at varying cervical disc levels.

Additional Evaluation

As a part of routine X-ray studies of the cervical spine, oblique, flexion and extension views are obtained that may show these specific changes: subluxation, disc thinning and traumatic osteophytes in the nerve foraminae.

In addition to the clinical evaluation and routine X-rays of the cervical spine, certain specific diagnostic methods are used to establish more positively the disc or discs that are the source of the patient's symptoms.

Myelogram

Cervical myelography[3] — the subarachnoid injection of pantopaque followed by fluroscopic and X-ray study — proves helpful in cases in which spinal cord and nerve root compression are suspected. Large disc herniations, bars of ruptured disc with overhanging osteophytes, and lateral disc ruptures compressing nerve roots may be found deforming the dural sac.

Discogram

Cervical discography[12] — the injection of hypaque into discs followed by an X-ray study — is indicated in cases in which the pain suggests disc derangement. By this means, tracts, cracks, rents and protrusions of the discs are viewed in the x-ray and the patient's symptoms may be reproduced by the irritation of the dye injected.

If the disc is normal the patient will suffer no pain during the injection, and the dye will be found by X-ray to remain centrally in the disc for more than half an hour.

If the disc is abnormal, two conditions may be found. The injection is usually accomplished with very little pressure, and the patient invariably suffers some local pain.

If an abnormal disc is the source of the patient's pain, the pain of which he complains during the injection is similar to the pattern of his usual pain.

Disc Rupture

Multiple disc ruptures have occurred in two-thirds of the 360 operative cases. Many authors have pointed out that cervical spines in persons over thirty years of age already contain a number of abnormal discs. When they are damaged by severe stretching-tearing injuries, these asymptomatic discs may become symptomatic. Their original abnormality complicates the selection of the specific disc or discs as the source of the patient's pain. Several symptomatic discs may need to be excised and fused before the patient is totally relieved. Determining these discs by myelography and discography is a time-consuming and trying procedure that is justified only by the beneficial results.

Solitary cervical disc rupture may occur from either acute injury or from attritional damage. The same diagnostic principles apply to solitary and multiple disc injury. Identification and treatment of solitary disc injury is less complicated than that of multiple disc rupture, and the results are correspondingly more satisfactory.

Basically the disc pathology for operative cases is acute or chronic.

The three acute conditions are (a) fracture-dislocations, (b) acute subluxation and fracture, and (c) acute disc rupture.

The chronic conditions are (a) those with symptoms directly or indirectly the result of healing osteoarthritic changes around an old injured intervertebral disc; (b) those with abnormal motion or instability of the disc joints such as that found in chronic subluxation; (c) those with basic attrition of the disc secondary to slow chronic wear and tear of the discs as joints; and (d) those in which the disc is torn loose from the annulus but no disc material is extruded.

Summary

The high percentage of successful results in these 360 cases operated leads to the conclusion that patients with neck injury whose symptoms indicate involvement of a nerve root, the spinal cord, the disc annulus, the vertebral artery or spatial proprioceptive dysfunction deserve a careful survey to demonstrate whether a ruptured disc is or is not the source of their symptoms.

Except in the three acute conditions—fracture-dislocations, acute subluxations and acute disc rupture—which are operated immediately, a serious attempt should first be made to relieve patients by prolonged conservative treatment. If this fails to bring relief, a detailed review should again be made and myelography and discography performed. If solitary or multiple cervical disc rupture is revealed to be the cause of the patient's symptoms, anterior cervical disc excision, bilateral nerve root and spinal cord decompression, and interbody fusion should follow.

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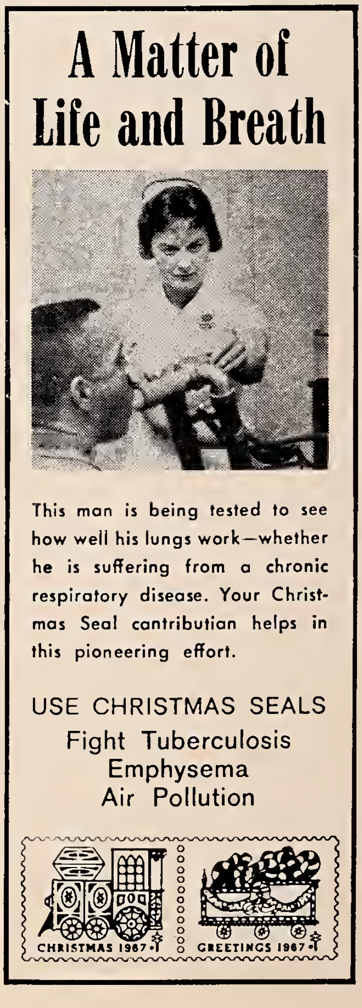

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[*] Its duration of action may sometimes be less than that of morphine.

[†] Should not be used for patients with increased intracranial pressure, head injury or pathologic brain conditions.

[††] Until sufficient experience is gained, Talwin should not be administered to children under 12 years of

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Types of surgical use	Number of patients	Efficacy % Exc.	 % Good	 Exc. + Good	 % Fair	 % Poor
• Preoperative	118	31	52	83%	15	2
• Postoperative	914	58	28	86%	8	6
• Pre- and postoperative	12	75	17	92%	0	8
• Minor surgery	33	30	39	69%	0	31[*]
• Traumatic	14	64	29	93%	7	0
• Dental	33	67	24	91%	3	6
Total patients............1124						

Efficacy of 30 mg. Talwin I.M. and S.C. as related to types of surgical use in a cooperative study

Data in files of Department of Medical Research, Winthrop Laboratories.

[*] High incidence of poor results in minor surgery is due primarily to one study involving change of burn dressings in children; 9 of 19 patients obtained poor results with dose used.

Talwin relieves all types of pain in acute and chronic medical disorders

Type of medical pain	Number of patients	Percentage of relief Excellent	 Good	 Exc. + Good	 Fair	 Poor
• Malignancy, pain in	161	44	37	81%	8	11
• Orthopedic; see also "Arthritis"	111	53	38	91%	5	4
• Cardiovascular pain; see also "Miscellaneous medical"	96	59	27	86%	6	7
• Genitourinary pain	83	42	33	75%	16	10
• Arthritis	76	33	51	84%	12	4
• Gynecologic pain	35	57	34	91%	6	3
• Cephalalgia	21	45	41	86%	9	5
• Gastrointestinal pain	19	89	5	94%	0	5
• Chest, including • Pleurisy • Pulmonary embolism and infarct • Lung abscess	12	83	17	100%	0	0
• Miscellaneous medical, including • Peripheral vascular disease • Thrombophlebitis • Cervical root pain • Facial neuralgia • Syringomyelia • Burns	108	50	39	89%	9	2
Total patients............722						

Efficacy of 30 mg. Talwin I.M. and S.C. as related to types of medical pain in a cooperative study

Data in files of Department of Medical Research, Winthrop Laboratories.

See next page for additional product information

Talwin relieves pain as quickly as morphine

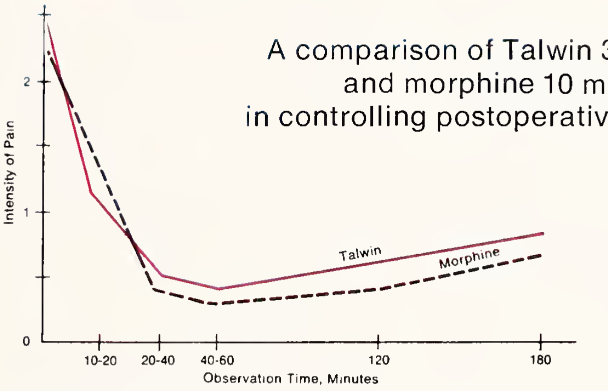

A comparison of Talwin 30 mg. and morphine 10 mg. I.M. in controlling postoperative pain[*]

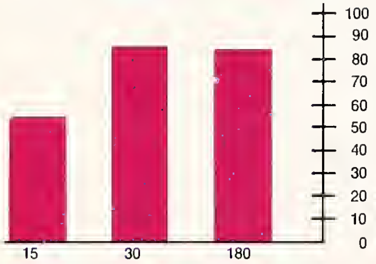
Figure 1.

Talwin 30 mg. proved equivalent to morphine 10 mg. in overall analgesic efficacy. During the early post-medication period (up to 40 minutes after drug injection), Talwin was superior in effect to morphine.

After observation periods ranging from 40 to 180 minutes there was no difference between the drugs in their effect on intensity. There were 141 and 119 complete patient records for Talwin and morphine, respectively, in this double-blind study. Other clinical investigators, studying duration, state that relief with Talwin may be obtained for up to three hours or longer, a period sometimes less than morphine's.

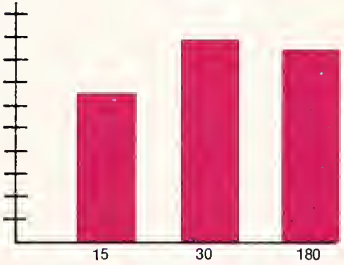
Talwin is as effective for severe pain (Fig. 2)[†] as for moderate pain (Fig. 3)[†]

Figure 2.



Per cent excellent to good relief of severe pain obtained with 30 mg. Talwin in 218 postoperative patients

Figure 3.



Per cent excellent to good relief of moderate pain obtained with 30 mg. Talwin in 203 postoperative patients

Talwin does not require a narcotics prescription or narcotics records

The World Health Organization Expert Committee on Dependence-Producing Drugs concluded that "...there was no need at this time for narcotics control of pentazocine [Talwin] internationally or nationally."[‡]

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[*] Storer, E. H.: Data in the files of the Sterling-Winthrop Research Institute.

[†] Cooperative study, data in the files of the Department of Medical Research, Winthrop Laboratories.

[‡] *World Health Organization Technical Report Series*, No. 343, 1966, p. 6.

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Precautions: *Pregnancy.* No teratogenic or embryotoxic effects attributable to the use of Talwin have been seen in extensive reproductive studies in animals; however, like all new drugs, Talwin should be given with caution to pregnant women. A large number of patients in labor have received the drug with no adverse reactions other than those that occur with commonly used strong analgesics. However, as with other strong analgesics, Talwin should be used with caution in women delivering premature infants.

Ambulatory Patients. Since sedation, dizziness, and occasional euphoria have been noted, ambulatory patients should be warned not to operate machinery, drive cars, or unnecessarily expose themselves to hazards.

Certain Respiratory Conditions. The possibility that Talwin (brand of pentazocine) may cause respiratory depression should be considered in treatment of patients with bronchial asthma. Talwin should be administered only with caution and in low dosage to patients with respiratory depression (e.g., from other medication, uremia, or severe infection), obstructive respiratory conditions, or cyanosis.

Patients Dependent on Narcotics. Because Talwin is a narcotic-antagonist, patients dependent on narcotics and receiving Talwin may occasionally experience certain withdrawal symptoms. Talwin should be given with special caution to such patients. It has been observed that some patients previously given narcotic-analgesics for one month or longer had mild withdrawal symptoms when the drug was replaced with the analgesic, Talwin. After a short period of adjustment the subjects were usually able and willing to continue taking Talwin, and relief of pain was satisfactory.

Nonaddicted Patients Receiving Narcotics. Symptoms believed to be indicative of antagonism to the opiate may be observed rarely with administration of Talwin to patients receiving opiates for a short time. Intolerance or untoward reactions are seldom observed after administration of Talwin to patients who have received single doses or who have had limited exposure to narcotics.

Impaired Renal or Hepatic Function. Although laboratory tests have not indicated that Talwin (brand of pentazocine) causes or increases renal or hepatic impairment, the drug should be administered with caution to patients with such impairment. Extensive liver disease appears to predispose to greater side effects (e.g., marked apprehension, anxiety, dizziness, sleepiness) from the usual clinical dose, and may be the result of decreased metabolism of the drug by the liver.

Myocardial Infarction. As with all drugs, Talwin (brand of pentazocine) should be used with caution in patients with myocardial infarction who have nausea or vomiting.

Biliary Surgery. Until further experience is gained with the effects of Talwin on the sphincter of Oddi, the drug should be used with caution in patients about to undergo surgery of the biliary tract.

Adverse Effects: Talwin is relatively free from the undesirable side effects associated with morphine, such as constipation, urinary retention, or severe respiratory depression. Furthermore, Talwin produces less nausea, vomiting, and diaphoresis than meperidine.

In over 12,000 patients who received Talwin intramuscularly, subcutaneously, or intravenously, nausea, the most frequent adverse effect, occurred in approximately 5.0 per cent. In decreasing order of occurrence were vertigo, dizziness or lightheadedness; vomiting; and euphoria. Respiratory depression was reported as an adverse reaction in 1.0 per cent.

The incidence of each of the other adverse effects was well below 1.0 per cent: constipation, circulatory depression, diaphoresis, urinary retention, alteration in mood (nervousness, apprehension, depression, floating feeling), hypertension, sting on injection, headache, dry mouth, flushed skin including plethora, altered uterine contractions during labor, dermatitis including pruritus, dreams, paresthesia, and dyspnea occurred rarely after administration of Talwin (brand of pentazocine). Furthermore, each of the following adverse reactions occurred in less than 0.1 per cent: tachycardia, visual disturbance (blurred vision, diplopia and nystagmus), hallucinations, disorientation, weakness or faintness, muscle tremor, chills, allergic reactions including edema of the face, taste alteration, insomnia, diarrhea, cramps, and miosis; laryngospasm in one patient.

Talwin has not produced severe respiratory embarrassment in adults (never apnea), even with large amounts. A small number of newborn infants whose mothers received Talwin during labor had transient apnea. The incidence of temporary diminution in the rate or strength of uterine contractions is low after administration of Talwin, similar to that following meperidine hydrochloride. (In reporting no interference with normal labor in patients receiving Talwin, one investigator further stated that the drug may increase uterine activity.) Generally, no significant fetal heart rate change occurs.

Laboratory tests of blood and of liver and kidney functions have revealed no significant abnormalities. A minimum and probably insignificant increase in the per cent of eosinophils in peripheral blood counts and bone marrow occurred occasionally.

Talwin is well tolerated by patients with diabetes mellitus, and no changes in insulin requirements have been observed.

Dosage and Administration: *Adults, Excluding Patients in Labor.* Average recommended single parenteral dose is 30 mg., by intramuscular, subcutaneous, or intravenous route; may be repeated every three to four hours. Pain has been relieved in most patients with not more than three doses daily. Infrequently, selected patients have received single doses as high as 60 mg.

Patients in Labor. A single, intramuscular 30 mg. dose has been most commonly administered. An intravenous 20 mg. dose has given adequate pain relief to some patients in labor when contractions become regular, and this dose may be given two or three times at two- to three-hour intervals, as needed.

Children Under 12 Years of Age. Since clinical experience in children under twelve years of age is limited, the use of Talwin (brand of pentazocine) in this age group is not recommended.

Duration of Therapy. Patients with chronic pain who received Talwin for prolonged periods (e.g., over 300 days) experienced no withdrawal symptoms even when administration was stopped abruptly; furthermore, there was no tolerance to the analgesic effect.

CAUTION. Talwin should not be mixed in the same syringe with soluble barbiturates because precipitation will occur.

Treatment of Overdosage or Respiratory Depression. Talwin has not produced apnea or severe respiratory embarrassment in adults, even in large doses. Occasionally, however, moderate respiratory depression may occur. Means of maintaining proper oxygenation should be available in case of overdosage or respiratory depression, and methylphenidate (Ritalin®) should be administered parenterally. The usual narcotic-antagonists, such as nalorphine, are not effective respiratory stimulants for depression due to Talwin.

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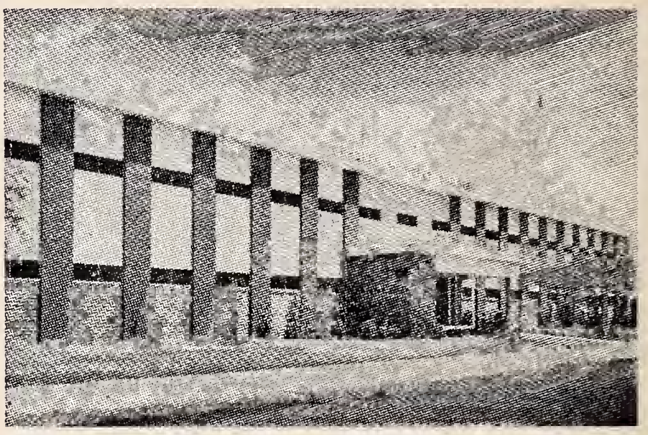

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PRESIDENT'S PAGE

Arnold H. Dysterheft, M.D.
President

Apropos to the times with the ever increasing happenings in our nation, the flouting of the law, the tendencies of individuals and groups to anarchy, others to so called justified civil disobedience, one should not overlook the positive side of the Bill of Rights and why it is the basis of society and our government. Life, faculties, production — in other words, individuality, liberty, property — this is man. And in spite of the cunning of artful political leaders, these three God given gifts precede all human legislation and are superior to it.

A just and enduring Government has laws which should cast forward a circumscribed natural protection to defend one's person, property and freedom. These are the three basic requirements of life, all of them interdependent upon each other. Thus, if disruption, social upheaval, riotous displacement, and downright pillage is tolerated under the guise of disobedience to equate social equality, one ends with a complete perversion of the law. It is axiomatic then that a Government tolerating increasing perversions, be they described as above or otherwise, could become suspect, lose the confidence of the people, even to the point of initiating a disquisition.

With an ever increasing sponsorship of health delivery legislation with its progressive infringement and destructive erosion in the private sector of the practice of medicine, one stands in amazement of that august body's philosophy.

Frederic Bastiat, a French statesman, economist, and author living in the first half of the Nineteenth Century, had a word for this type of encroachment on one's basic rights — "legal plunder."

A new year is almost upon us, a year from now a new Congress will represent the Nation's wishes. Organized medicine, a small minority of the total electorate, must awaken, must react vigorously lest we face a desquamation as destructive as produced by the Eighty-ninth Congress. Your membership in ARMPAC is the one way you can show your concern. Give our ARMPAC Committee something to work with, for friends of organized medicine are sorely needed in Congress.

May I take this occasion to wish each and every one of you a pleasant, joyous and happy Holiday Season.

"When I couldn't even smell corned beef and cabbage, I decided it was time for you, Doc."

Maybe he doesn't know when he's well off. But you might want to prescribe long-acting Novahistine LP anyway.

Two tablets in the morning and two in the evening will usually provide day and night relief by helping to clear congested air passages for normal, free breathing. Novahistine LP is formulated to provide continuous therapeutic effect for 8 to 12 hours. The decongestant ingredients help restore normal mucus secretion and ciliary activity—physiologic defenses against infection of the respiratory tract. Use cautiously in individuals with severe hypertension, diabetes mellitus, hyperthyroidism or urinary retention. Caution ambulatory patients that drowsiness may result. Each Novahistine LP tablet contains phenylephrine hydrochloride, 25 mg., and chlorpheniramine maleate, 4 mg.

NOVAHISTINE® LP

DOW **PITMAN-MOORE** Division of The Dow Chemical Company, Indianapolis

If it doesn't work in a week, forget it.

Contraindications: Edema; danger of cardiac decompensation; history or symptoms of peptic ulcer; renal, hepatic or cardiac damage; history of drug allergy; history of blood dyscrasia. The drug should not be given when the patient is senile or when other potent drugs are given concurrently. Large doses of Butazolidin alka are contraindicated in glaucoma.

Warning: If coumarin-type anticoagulants are given simultaneously, watch for excessive increase in prothrombin time. Instances of severe bleeding have occurred. Pyrazole compounds may potentiate the pharmacologic action of sulfonylurea, sulfonamide-type agents and insulin. Carefully observe patients receiving such therapy. Use with great caution in the first trimester of pregnancy.

Precautions: Before prescribing, carefully select patients, avoiding those responsive to routine measures as well as contraindicated patients. Obtain a detailed history and a complete physical and laboratory examination, including a blood count. The patient should not exceed recommended dosage, should be closely supervised and should be warned to discontinue the drug and report immediately if fever, sore throat, or mouth lesions (symptoms of blood dyscrasia); sudden weight gain (water retention); skin reactions; black or tarry stools or other evidence of intestinal hemorrhage occur. Make regular blood counts. Discontinue the drug immediately and institute countermeasures if the white count changes significantly, granulocytes decrease, or immature forms appear. Use greater care in the elderly and in hypertensives.

Adverse Reactions: The most common are nausea, edema and drug rash. Swelling of the ankles or face may be minimized by withholding dietary salt, reduction in dosage or use of diuretics. In elderly patients and in those with hypertension the drug should be discontinued with the appearance of edema. The drug has been associated with peptic ulcer and may reactivate a latent peptic ulcer. The patient should be instructed to take doses immediately before or after meals or with milk to minimize gastric upset. Mild drug rashes frequently subside with reduction of dosage. However, rash accompanied by fever or other systemic reactions usually requires withholding medication. Purpuric rash has also been reported. Agranulocytosis, ex-

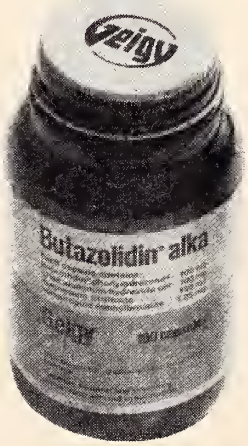
In rheumatoid arthritis, Butazolidin alka needs only a week's trial. If it doesn't work in a week, forget it.

A short trial period may spare patients weeks of discomfort. That's one reason why Butazolidin alka seems a good choice when aspirin fails.

It's not for every patient. Check carefully the Contraindications, Warning, and Precautions shown below.

And adverse reactions may occur. The most common are nausea, edema and rash. Rarely, agranulocytosis has been reported. All adverse reactions are listed below, too.

You'll know quickly if it works.
And most of the time, it will.



foliative dermatitis, Stevens-Johnson syndrome, or a generalized allergic reaction similar to serum sickness may occur and require permanent withdrawal of medication. Stomatitis, salivary gland enlargement, vomiting, vertigo and languor may occur. Leukemia and leukemoid reactions have been reported. While not definitely attributable to the drug, a causal relationship cannot be excluded. Thrombocytopenic purpura and aplastic anemia may occur. Confusional states, agitation, headache, blurred vision, optic neuritis and transient hearing loss have been reported, as have hyperglycemia, hepatitis, jaundice, and several cases of anuria and hematuria. With long-term use, reversible thyroid hyperplasia may occur infrequently. Moderate lowering of the red cell count due to hemodilution may occur.

Dosage in Rheumatoid Arthritis: Initial: 3 to 6 capsules or tablets daily in 3 or 4 equal doses. Trial period: 1 week. Maintenance dosage should not exceed 4 capsules or tablets daily; response is often achieved with 1 or 2 capsules or tablets daily.
6509-V(B)R2

For complete details, please see full prescribing information.

Butazolidin® alka

Capsules: phenylbutazone, 100 mg.; dried aluminum hydroxide gel, 100 mg.; magnesium trisilicate, 150 mg.; homatropine methylbromide, 1.25 mg.

Also available: Butazolidin®, phenylbutazone: Tablets of 100 mg.

Geigy
Geigy Pharmaceuticals
Division of Geigy Chemical Corporation
Ardsley, New York

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Regional Medical Programs: Part III

In Arizona there was very little reaction when Public Law 89-239 was passed in the fall of 1965. However, in the spring of 1966, the Arizona Board of Health requested that the Governor designate the State of Arizona as a "region" for the purpose of implementing Public Law 89-239. In response, the Governor appointed a Steering Committee and charged it with the mission of determining whether or not Arizona should constitute such a region. Represented on this Committee were the Arizona Hospital Association, Arizona Chapters of the American Cancer Society and the American Heart Association, the Arizona Medical Association, the State Health Department and the College of Medicine. The Dean of the College of Medicine was asked to serve as Chairman.

After its first meetings, the Steering Committee concluded that the State of Arizona should be designated as a region. Because of the wording of the Law, it seemed desirable to designate the College of Medicine as the applicant institution for a Planning Grant. The original Steering Committee was then dissolved, but its members constituted the core of an expanded "Regional Advisory Group," which was structured as required by Public Law 89-239. An application was then prepared by the College of Medicine and submitted to the Regional Medical Program Division of the National Institutes of Health in December, 1966. The Planning Grant was favorably received by the National Institutes of Health and an appropriate award was made to implement the Program in the spring of 1967. Subsequently, a Past-President of the Arizona Medical Association, Dr. Dermont Melick, was persuaded to resign his practice and assume responsibility for the development of a Regional Medical Program for Arizona as its Coordinator. Dr. Melick is already hard at work and we can look forward to hearing more about this from him.

What may have started out with great misunderstanding now appears to offer real promise. The program can be expected to stimulate the production of new workers in the health field and it will assist in the wider distribution of their services. It will enhance the use of paramedical professionals and will serve to narrow any existing knowledge gap so that every practicing physician can be of maximum usefulness to his patient clientele. The program has the capability of making every physician in Arizona an integral part of the broad University concept of "education for all" through an instrument that was espoused by a late president of the Arizona Medical Association, Lindsay Beaton; i.e.: "The University without walls."

And what about the future implications of this legislation? It seems to be a safe bet that if the principle of this law works, the doctors themselves will insist that its benefits not be restricted to those with cancer, heart disease, stroke, and related diseases. Rather, they will surely want to use their new-found role as a relay station on a wide network of communications to advance their own capabilities and to spread the word about other disease entities.

Similarly, having devised an instrument which diminishes the tendency for the university community to remain isolated in its efforts, one can only wonder whether or not, when added to the impact of the Morrill Act, this won't begin to move the universities away from their traditional position as institutions and toward that of being social instruments. Last, in an era in which society has determined that all citizens have a right to access to competent health care, one can reasonably hope that the cohesive efforts of the numerous agencies and persons involved in implementing the Regional Medical Programs Act will stimulate the production of a force which, in the future, will serve the health needs of society in a much more efficient manner than has ever before been possible.

As Mr. Russell pointed out in his article on Regional Medical Programs, "it is amazing what a gift of a few pictures to the White House can do."

Monte DuVal

Against these three major pathogens…

Pneumococci
Penicillin-Sensitive Staphylococci
Beta-Hemolytic Streptococci

V-Cillin K® provides dependable oral antibacterial therapy

because it combines a high degree of activity...

V-Cillin K has been shown to be effective in the treatment of streptococcus and pneumococcus infections as well as infections caused by sensitive strains of staphylococci. It may be used for the prophylaxis of streptococcus infections in patients with a history of rheumatic fever and for the prevention of bacterial endocarditis after tonsillectomy in patients with a history of rheumatic fever or congenital heart disease.

with high blood levels, even when taken with food

V-Cillin K is stable in acid and immediately soluble. High serum levels, therefore, are reached rapidly. Because it is acid stable, V-Cillin K is well absorbed even when taken close to mealtime. These desirable properties help make V-Cillin K a dependable penicillin for oral use.

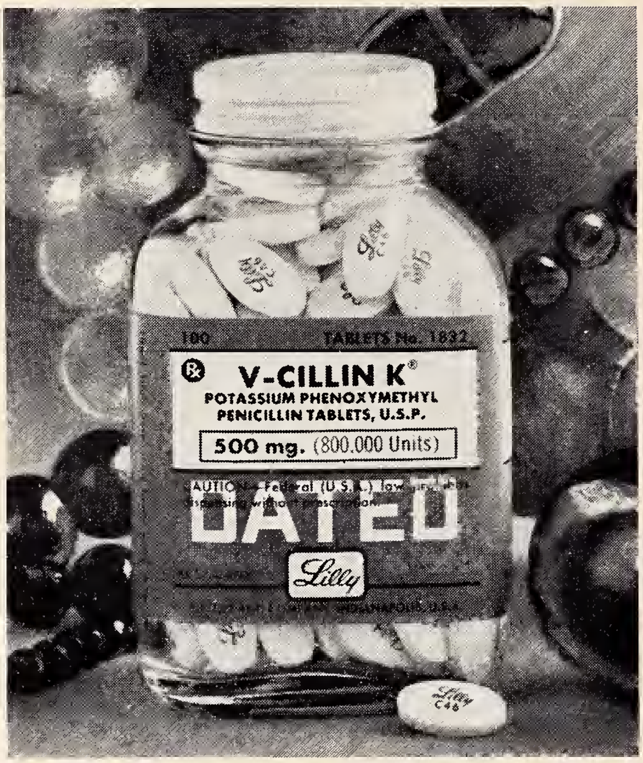
V-Cillin K® 701449

Potassium Phenoxymethyl Penicillin

Now available: V-Cillin K®, Pediatric, for Oral Solution, 250 mg. (400,000 units) per 5 cc. of solution.

(See next page for prescribing information.)

New 500 mg. tablets...a more convenient way to give high doses



Description: V-Cillin K, the potassium salt of V-Cillin® (phenoxymethyl penicillin, Lilly), combines acid stability with immediate solubility and rapid absorption. Higher, more rapid serum levels are obtained than with equal oral doses of penicillin G.

Indications: Streptococcus, pneumococcus, and gonococcus infections; infections caused by sensitive strains of staphylococci; prophylaxis of streptococcus infections in patients with a history of rheumatic fever; and prevention of bacterial endocarditis after tonsillectomy and tooth extraction in patients with a history of rheumatic fever or congenital heart disease.

Contraindication: Penicillin hypersensitivity.

Warnings: In rare instances, penicillin may cause acute anaphylaxis which may prove fatal unless promptly controlled. This type of reaction appears more frequently in patients with a history of sensitivity reactions to penicillin or with bronchial asthma or other allergies. Resuscitative drugs should be readily available. These include epinephrine and pressor drugs (as well as oxygen for inhalation) for immediate allergic manifestations and antihistamines and corticosteroids for delayed effects.

Precautions: Use cautiously, if at all, in a patient with a strongly positive history of allergy.

In prolonged therapy with penicillin, and particularly with high parenteral dosage schedules, frequent evaluation of the renal and hematopoietic systems is recommended.

In suspected staphylococcus infections, proper laboratory studies (including sensitivity tests) should be performed.

The use of penicillin may be associated with the overgrowth of penicillin-insensitive organisms. In such cases, discontinue administration and take appropriate measures.

Adverse Reactions: Although serious allergic reactions are much less common with oral penicillin than with intramuscular forms, manifestations of penicillin allergy may occur.

Penicillin is a substance of low toxicity, but it possesses a significant index of sensitization. The following hypersensitivity reactions have been reported: skin rashes ranging from maculopapular eruptions to exfoliative dermatitis; urticaria; and reactions resembling serum sickness, including chills, fever, edema, arthralgia, and prostration. Severe and often fatal anaphylaxis has occurred (see Warnings). Hemolytic anemia, leukopenia, thrombocytopenia, and nephropathy are rarely observed side-effects and are usually associated with high parenteral dosage.

Administration and Dosage: Usual dosage range, 125 mg. (200,000 units) three times a day to 500 mg. (800,000 units) every four hours. For infants, 50 mg. per Kg. per day divided into three doses.

See package literature for detailed dosage instructions for prophylaxis of streptococcus infections, surgery, gonorrhea, and severe infections.

How Supplied: Tablets V-Cillin K, U.S.P., 125 mg. (200,000 units), 250 mg. (400,000 units), and 500 mg. (800,000 units).

V-Cillin K, Pediatric, for Oral Solution, 125 mg. (200,000 units) and 250 mg. (400,000 units) per 5 cc. of solution (approximately one teaspoonful). [042567]

Additional information available to physicians upon request. Eli Lilly and Company, Indianapolis, Indiana 46206.

Lilly

701449

BELIEF IN MAGIC

WILLIAM B. McGRATH, M.D.

There is a truism in science:[*] the development of the individual, through uterine growth to maturity, is analogous to the evolution of the whole genus or species.

This can also be said of the growth of the mind. One journeys from infantile savagery to membership in the barbarian clans of childhood to his final dwelling among civilized adults. In his own lifetime the individual condenses, telescopes, re-lives the entire experience of the race.

Common to the primitive tribe on the one hand and to the immature modern on the other is a tenacious belief in magic.

In the magic which is called "sympathetic," for example, the person hopes to bring about a desired result just by giving it a name or by mimicking it. By making thunderous noises the leaping savage expects to produce rain. Similarly, the physician who cannot accept anonymous mediocrity may put a sign over his door: "International Institute for Research into Life and Death and all Diseases and Disorders in Between." Many of our titles ("chief" of this or that) are pretty honorific if not juvenile.

There are current trends toward magical costuming and impersonations. The young woman who puts on clothing appropriate to a first-grader and carries her little may-basket of flowers is pleading: "Take care of me and love me but do not ask or expect anything of me in return." A romantic youth may make himself up to look like a starving artist in a garret. But if in fact he occupies a comfortable room and gets his tuition and allowance from his father, then he is only posing. And his impersonations leave him defensive and irritable. It takes more than a guitar strapped to one's back to make a genuine troubador.

This brings to attention a slightly subtler kind of belief in magic: the wishful thinking of the immature who await something called inspiration, some supernatural gift by virtue of which they will be creative without learning and without long, hard discipline. Marked forever as immature and amateur is the musician who cannot read music and who has not practiced the scales. One never writes poetry who has not first learned to write clear and elegant prose.

Primitive tribes and infantile persons also cling to a belief in magical potions. They insist that there must be something which will provide them effortless comfort and peace of mind – as mother's milk did long ago. "Doctor, give me something that will make me feel good." They bitterly resist and resent our adult scoffing at their notion that LSD or mushrooms will afford them instant metaphysical illumination.

A seemingly more sophisticated belief in magic is characteristic of those who would like to find some powerful and occult energy transformation in thaumaturgical use of language. Weird conjurings and invocations and incantations are the background music of hypnotism and extrasensory perception. Or one remembers the fad of Coue′-ism: "Every day in every way I am getting better and better," (Ambrose Coue′, 1857-1926), an earlier version of positive thinking.

No; from small planting, small harvest; from puny effort, little accomplishment. The children of the world may all weep and have temper tantrums when their illusions are taken away from them. To grow up, be it the individual or a tribe, is to relinquish belief in magic and the supernatural. All the laws of nature are harsh and impersonal. Mathematics makes no exceptions.

In context and by way of natural philosophy one might consider a proposition: there are not two sets of laws, as people think, – the laws of nature and the laws of man. They are the same. In this life man is still grounded in nature.

---

[*] Ontogeny recapitulates phylogeny.

Man does not make the laws of nature — the laws of mathematics and chemistry and physics. He only discovers them. They were already there. He cannot change them; and he ignores or transgresses them only and always at his peril.

Neither does man in the last analysis make his own laws. All of his laws — even the commandments — ultimately derive from the clear and inexorable arithmetic of nature. A person who works only for money will end up with nothing but money. A man who is willing to steal must live in fear of being robbed. A child born out of wedlock or the issue of adultery will not have paternal protection. A generation which does not honor the father and mother will have to learn a lot of facts the hard way, without the wisdom of the elders' experience. By trial and error we do not make new laws; we just discover old ones.

During the epochs when man seemed most enlightened he was studying the laws of nature and relating himself closely to them. More human suffering has been relieved by the analysis of dreams, the dispersing of superstitions, than by all the medications in the world.

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A School For Exceptional Children

The Hobby Horse Ranch School is both home and school for a small group of children. It welcomes the child who is mentally retarded and physically handicapped as well as the backward child who suffers no physical handicap.

The Hobby Horse Ranch School is a branch of Fairview School in Fishkill, New York which was established in 1936.

Directors: Blanche C. Lightowler, B.A.
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The fast-disintegrating uncoated tablet gives relief in 15 minutes

Each tablet contains:

Potassium Iodide . . . . 195 mg.
Aminophylline . . . . 130 mg.
Phenobarbital, Caution: May be habit forming . . . 21 mg.
Ephedrine HCl . . . . 16 mg.

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Precautions: Usual for aminophylline-ephedrine-phenobarbital. Iodides may cause nausea, long use may cause goiter. Discontinue if symptoms of iodism develop.

Iodide contraindications: tuberculosis, pregnancy.

DOSAGE
One tablet, with full glass of
water, 3 or 4 times daily.

Dispensed in bottles of 100 and 1000 tablets.

MUDRANE GG—Formula, dosage and package identical to Mudrane—*except*—100 mg. glyceryl guaiacolate replaces the potassium iodide. The value of Mudrane cannot be enjoyed by a small group in which K.I. is contraindicated. Mudrane GG is prepared for this group.

MUDRANE GG ELIXIR—Four 5 cc teaspoonfuls is equivalent to one Mudrane GG tablet. Dosage adjusted to age and weight of child. Mudrane GG Elixir is for pediatric patients and those who think they cannot swallow tablets. Dispensed in pint and half gallon bottles.

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If hypothyroidism leaves your patient feeling like this...

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Synthetic Thyroid Replacement Therapy

Letter® provides all the advantages of the synthetically pure chemical sodium levothyroxine. Dosage is precise and potency is consistently uniform.

and

Letter® is micronized to provide maximum opportunity for full absorption and clinical response.

In addition Letter® is distinctively color coded with an identifying number stamped on each tablet to provide accurate dosage control.

Indications: Hypothyroid conditions. **Contraindications:** Thyrotoxicosis, acute myocardial infarctions unless associated with hypothyroidism. In hypothyroidism with hypoadrenalism coadministration of corticoids with LETTER® is recommended. **Precautions and Side Effects:** Excessive dosage may result in diarrhea, cramps, palpitation, nervousness, rapid pulse, sweating. If symptoms appear, discontinue medication for several days, then reinstitute at a lower level. Since myxedema patients with heart disease may suffer seriously from abrupt increases in dosage, caution should be exercised in adjusting dosage. **Dosage:** Generally, the initial adult dosage is 0.1 mg. daily. This may be increased in small increments every one to three weeks until proper metabolic balance is achieved. **Available:** Bottles of 100 tablets, in six potencies: 0.025 mg. (violet), 0.05 mg. (peach), 0.1 mg. (pink), 0.2 mg. (green), 0.3 mg. (yellow), and 0.5 mg. (white).

ARMOUR PHARMACEUTICAL COMPANY • CHICAGO, ILLINOIS

Before prescribing, see complete prescribing information in SK&F literature or *PDR.* A brief precautionary statement follows.
Contraindications: Glaucoma, prostatic hypertrophy, stenosing peptic ulcer, pyloroduodenal obstruction, or bladder neck obstruction.
Precautions: Use cautiously in the presence of hypertension, hyperthyroidism, coronary artery disease; warn vehicle or machine operators of possible drowsiness.
Usage in Pregnancy: Use cautiously, especially in the first trimester. *Note:* The iodine in isopropamide iodide may alter PBI test results and will suppress I^{131} uptake; discontinue 'Ornade' one week before these tests.
Adverse Reactions: Drowsiness; excessive dryness of nose, throat or mouth; nervousness; insomnia. Other known possible side effects of the individual ingredients: nausea, vomiting, diarrhea, rash, dizziness, fatigue, tightness of chest, abdominal pain, irritability, tachycardia, headache, difficulty in urination. Thrombocytopenia, leukopenia and convulsions have been reported but no causal relationship has been established.

a stuffy nose
is no
laughing matter

Ornade® Trademark

Each capsule contains 8 mg. of Teldrin® (brand of chlorpheniramine maleate), 50 mg. of phenylpropanolamine hydrochloride, and 2.5 mg. of isopropamide, as the iodide.

Spansule® Capsules

brand of sustained release capsules

each one can
give him all-day
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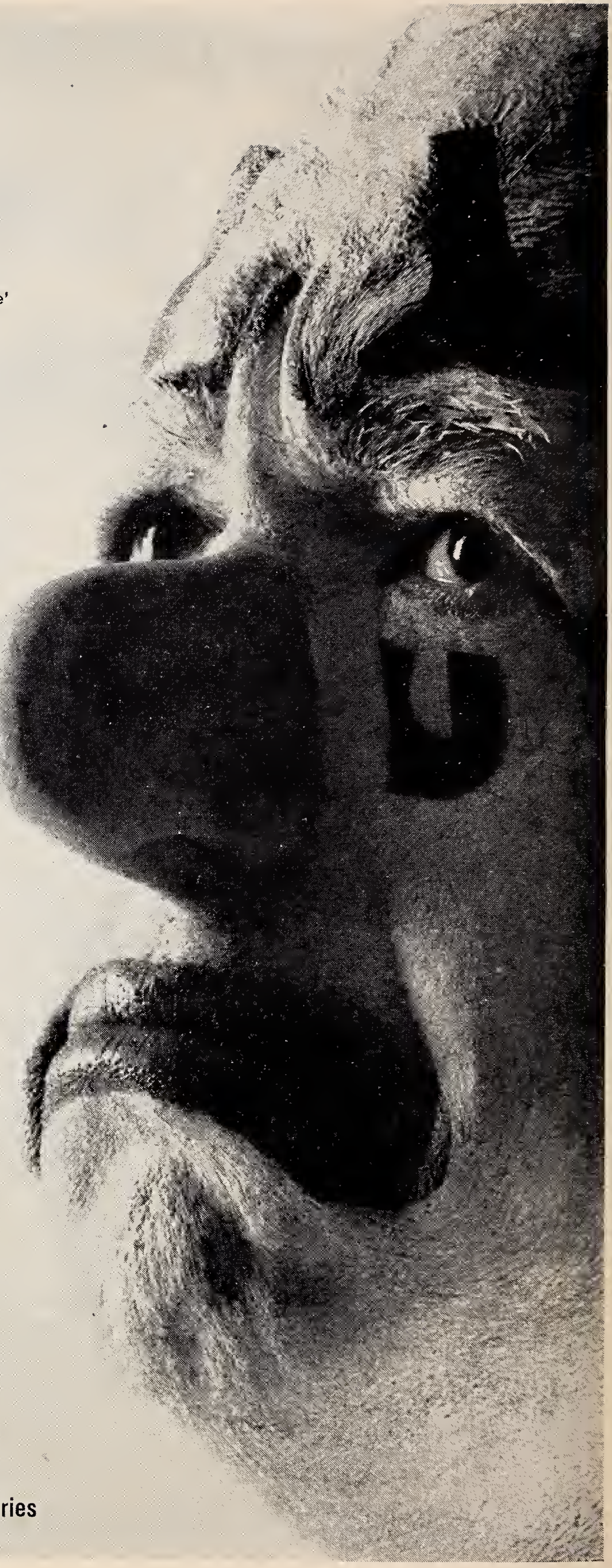

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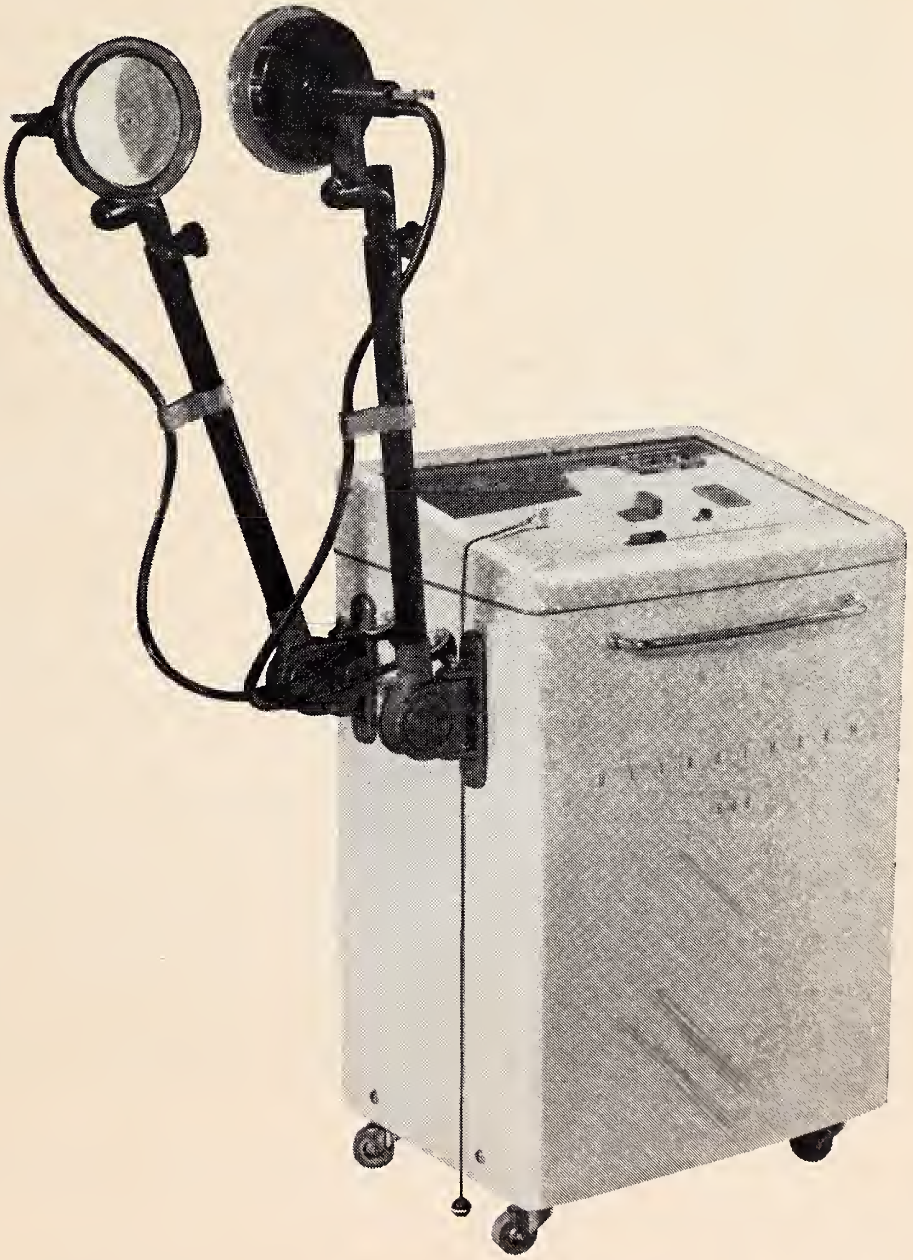

Siemens Ultratherm® 608

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SME-2

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Because, when your patients have Blue Cross/Blue Shield protection, payments are made *directly to you.* She doesn't have to look up code numbers or fees. And no patient signatures are needed. It's easier, quicker. So she has *time* to work with you and help patients and make appointments and schedule your day...which is what you hired her for to begin with! We'll do everything we can to be helpful, because without the devoted services of you and your colleagues who serve on the Blue Shield Board, we couldn't serve our members so economically.

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"Man's best friend" in wintertime diarrheas

In winter "flu" and viral gastroenteritis, Donnagel (4 oz. size!) can bring aid and comfort to sufferers from both diarrhea and its discomforts because it contains kaolin and pectin *plus* belladonna alkaloids (as in Donnatal®). Donnagel treats the whole diarrhea problem. Available on your prescription or recommendation.

For acute, non-specific diarrheas
Donnagel® -PG (Donnagel with paregoric equivalent).
Donnagel formula plus powdered opium, USP, 24.0 mg. (equivalent to paregoric 6 ml.) (warning: may be habit forming). Alcohol, 5%.

All the antidiarrheal benefits of paregoric without the unpleasant taste. Real banana flavor makes it acceptable, even to children.
See product literature before prescribing.

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THERE'S A FORMULATION FOR EVERY COUGHING NEED

All the Robitussins contain glyceryl guaiacolate, the outstanding expectorant agent that greatly increases the output of lower respiratory tract fluid. Increased RTF volume exerts a demulcent effect on the tracheo-bronchial mucosa, promotes ciliary action, and makes thick, inspissated mucus less viscid and easier to raise.

For coughs of colds and "flu"
ROBITUSSIN®
Each 5 cc. contains:

Glyceryl guaiacolate	100 mg.

Alcohol, 3.5%

For unproductive allergic coughs
ROBITUSSIN® A-C
Each 5 cc. contains:

Glyceryl guaiacolate	100 mg.
Pheniramine maleate	7.5 mg.
Codeine phosphate	10.0 mg.

(warning: may be habit forming)
Alcohol, 3.5%

Non-narcotic for 6-8 hour cough control
ROBITUSSIN®-DM
Each 5 cc. contains:

Glyceryl guaiacolate	100 mg.
Dextromethorphan hydrobromide	15.0 mg.

Alcohol, 1.4%

New! Clears sinuses and nasal stuffiness as it relieves cough
ROBITUSSIN®-PE
Each 5 cc. contains:

Glyceryl guaiacolate	100 mg.
Phenylephrine hydrochloride	10.0 mg.

Alcohol, 1.4%

	ROBITUSSIN	ROBITUSSIN A-C	ROBITUSSIN-DM	ROBITUSSIN-PE
EXPECTORANT	●	●	●	●
DEMULCENT	●	●	●	●
COUGH SUPPRESSANT		●	●	
ANTIHISTAMINE		●		
LONG-ACTING (6-8 HOURS)			●	
NASAL, SINUS DECONGESTANT				●

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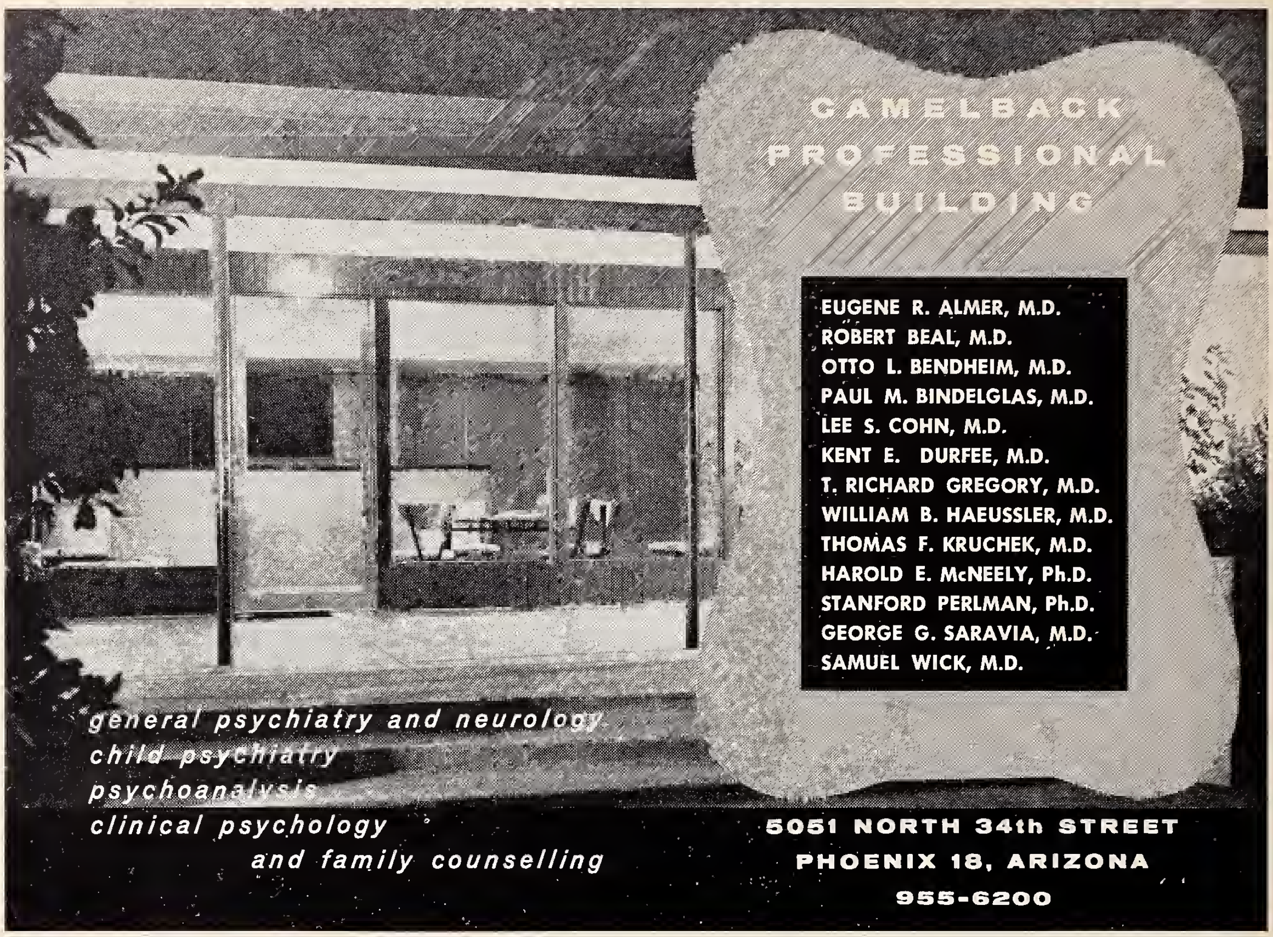

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JAMES MALCOLM WALSH, M.D.
1886-1967

It isn't easy to write an obituary at any time but it is even more difficult to do so for a close friend who was also a gracious and exceedingly kind physician.

Dr. James Malcolm Walsh was born in Ontario, Canada, May 10, 1886, of American parents and was named after his uncle, J. M. Walsh, one-time Superintendent of Fort Walsh, Saskatchewan Province. He obtained his medical degree from the University of Michigan in 1908 and interned at the Woman's Hospital, Nashville, Tennessee. In 1918, he followed his brother, Dr. Louis E. Walsh, now deceased, to Arizona.

In Jerome, where his friends called him "Dr. Malcolm," he worked for 13 years with Dr. Arthur C. Carlson. In the early 1920's he was President of the Yavapai County Medical Society. In 1966 he contributed an article to **Arizona Medicine** regarding the "awful flu epidemic" of October, 1918. In spite of failing vision and the distances involved in attending county and state medical meetings, Dr. Walsh, up to the last few months of his life, conscientiously participated in these meetings.

For the past 14 years it was the privilege of many employees of Kennecott Copper Corporation to have him as their physician. During this period many honors were bestowed on him. In 1958 the Arizona Medical Association presented him with a plaque for "fifty years in the practice of medicine and surgery." In 1965, a group of Kennecott employees gave him a clock in appreciation of his services, and on June 1st, 1967, Kennecott Copper Corporation held a retirement luncheon in his honor. At the close of his short talk he said, "From my heart, I thank you all." I am sure that Dr. Walsh in his 59 years of medical practice had this same type of "thank you" said to him thousands of times, and just as sincerely spoken.

Doctor Walsh passed away September 21, 1967, at the age of 81. He is survived by his wife, Helen, a son residing in Jerome, two daughters residing in California, a brother and sister residing out of state, nine grandchildren and hundreds of appreciative friends and patients.

VICTOR R. HANSON, M.D.
1916-1967

Dr. Victor Robert Hanson, of Willcox, died on August 10, 1967, at the Thomas Davis Clinic in Tucson.

Dr. Hanson received his M.D. degree in 1950 from the University of Oregon Medical School, and interned in the Fitzsimmons Army Hospital, Colorado, from 1950 to 1951.

Dr. Hanson moved to Willcox five years ago from Michigan, and enjoyed a large medical practice during this period.

He was a member of the V.F.W., American Medical Association, Arizona Medical Association, Cochise County Medical Society, Aircraft Owners and Pilots Association, Kiwanis, and International Pilots.

He was a veteran of World War II and the Korean conflict.

Dr. Hanson was a member of the Lutheran Church.

Besides his wife, Dorothy, he is survived by two daughters: Mrs. Laurel Frazier, Phoenix; and Victoria Hanson, Willcox; and three sons: Richard, Ronald and Kenneth, all of Willcox. He is also survived by a brother, Palmer Hanson, of Seattle, Washington.

co–op.er.a.tion, co.öp.er.a.tion, co.op.ĕr.a.tion (kō–op'er–ā'shen), n. 1. a co–operating; joint effort the benefits of which are shared by all members.

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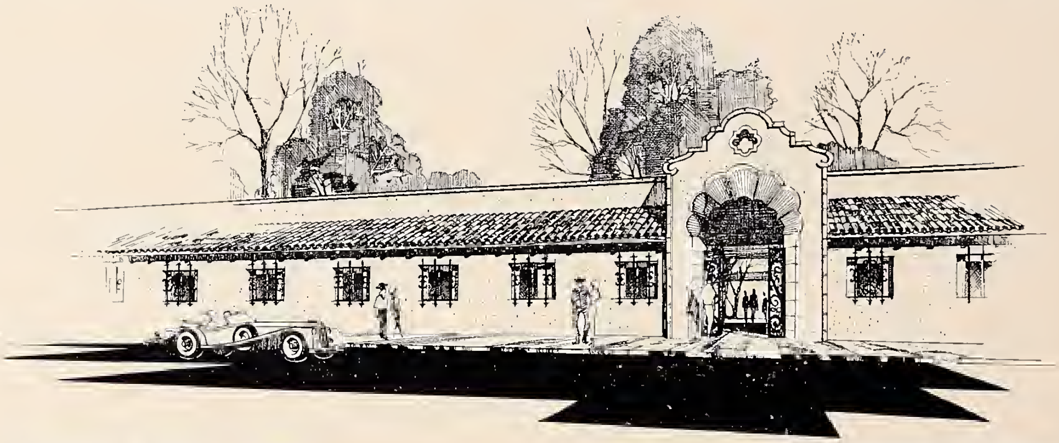

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CENTRALIZATION OF ARIZONA PROFESSIONAL BOARDS

By Alfred J. Duncan, Secretary
Arizona State Board of Pharmacy

There have been recent newspaper articles reporting studies for reorganizing the Arizona State Government. Probably most Arizonans that have at least a little insight or knowledge of our present system will agree that such studies and some kind of reorganization are needed. But that doesn't mean that everything in our present system should be changed.

For instance, probably the Governor does need more administrative powers. But that doesn't mean we need a three-man commission to replace our Governor. I am not worried about that happening, but I am concerned over the recommendation that ALL Boards and Commisisons be centralized under one department. And I believe all members of the health profession should also be concerned, and start planning to see that any reorganization that does take place will respect the ability of pharmacy, medicine, osteopathy, nursing, dentistry and veterinary medicine to rule themselves for the best interest of the public.

This might not be true for all the other boards and commissions that Arizona has, and it is not my duty, purpose nor within my experience to defend them. But centralizing the boards of the health professions would lessen the quality of control the State now has over these health professions.

This was distinctly pointed out in a recent case before the Florida Supreme Court. In October, 1966, that court stated, in the case of the Florida Board of Pharmacy versus Herbert Levin, that: "It is apparent that because of the particular issues in the hearing, the members of the Board of Pharmacy, who are all pharmacists — were in all probability better qualified than others not members of the profession, to determine whether their fellow-professional Levin's actions and conduct in the premises measured up to the recognized standards and regulations of the pharmaceutical profession."

The Court further stated: "Whether the excuse offered by Levin was satisfactory to exonerate him of the ostensible violation was a matter peculiarly within the province of the members of the Board of Pharmacy. Their judgment in this particular respect is entitled to considerable weight since, as pharmacists themselves, their professional knowledge and experience respecting differences between the particular drugs and their brand names, their possible deleterious effects if misused, and the obligation to carefully comply with prescription requirements, unquestionably enabled them to better evaluate the explanation offered by Levin."

Briefly, pharmacist Levin had sold 100 Obocell capsules without a doctor's authorization to a drug inspector posing as a brother to a patient that had a prescription on file for 30 Eskatrol. Levin pleaded that they were both amphetamines and therefore the same. The Court evidently didn't consider the question of raising the quantity from 30 to 100. And Levin's plea was accepted and upheld in two lower courts, but reversed in the State's Supreme Court.

As Florida's Assistant Attorney General Frank A. Arlando stated this is a court case that stresses the importance of having professionals regulate their own profession. Each professional is unique, and no lay person can possibly judge a member's action as well as one indoctrinated in that same profession.

I believe our other boards in the health profession are also uniquely qualified to judge their own, and are doing a good job judging them. I also believe from my experience that centralizing these boards and subjecting them to the vagaries of politics and lay persons outside of the professions leads to a deterioration of the standards of the professions, and is not the best form of government.

Our pharmacy laws do need revising and we are working on them. But that has nothing to do with the centralization of the boards.

Now if you pharmacists want to continue to have a Board of Pharmacy composed of pharmacists to govern your actions, you should start talking to your legislators. Physicians, nurses, dentists and veterinarians should also start talking because this proposal of centralization of boards is no idle threat. It has already been proposed and has strong support from respected, influential people.

So it is time that we told our side of the story.

Reprinted from Arizona Pharmacist August, 1967.

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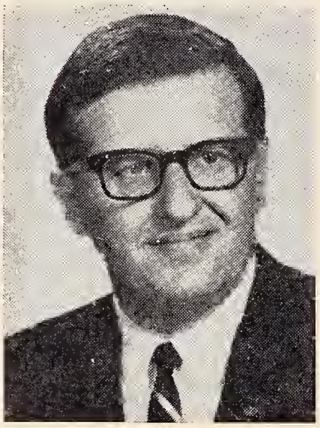

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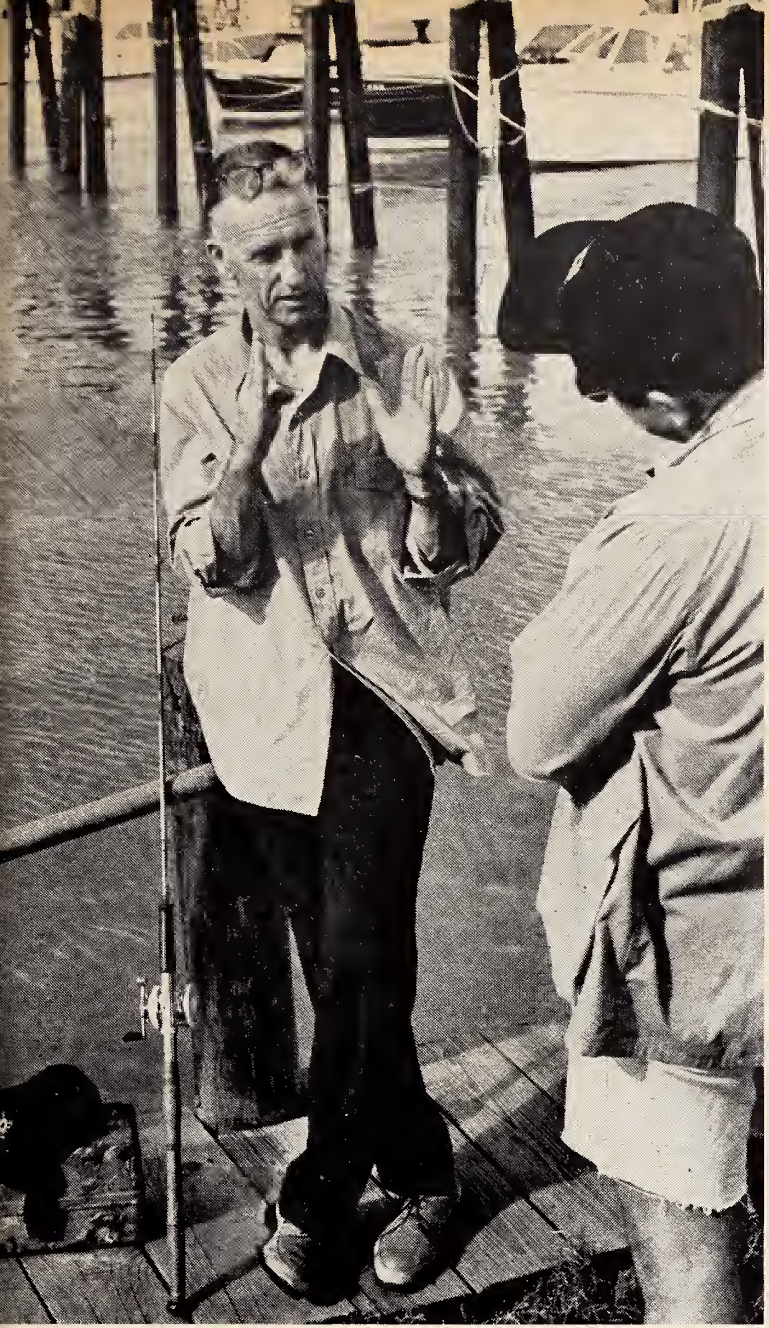

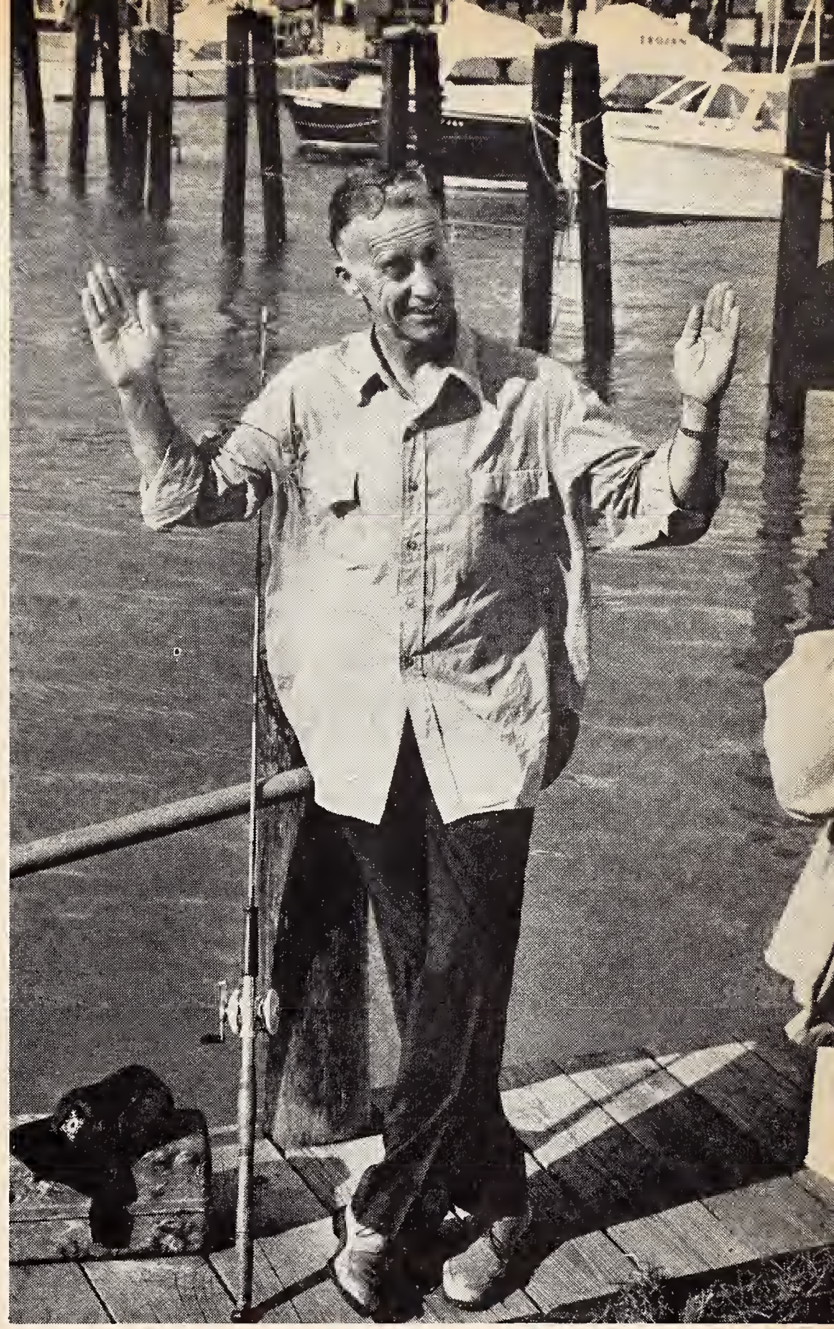

Picture of bursitis

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Parafon Forte helps to relieve pain, restore mobility . . . stop pain-spasm feedback

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a nonsalicylate analgesic equal to aspirin for the relief of pain,[1,2] yet unlikely to produce the irritation to the gastric mucosa so often associated with salicylate therapy[3]

and a skeletal muscle relaxant shown to have up to a 6-hour span of action,[4-6] and to retain effectiveness even on continued administration,[5-7] but which does not have the central effects of tranquilizing compounds.

Prescribe PARAFON FORTE for lasting spasmolysis and analgesia in sprains, strains, myalgias, low back pain, bursitis and other musculoskeletal disorders. Your patients will appreciate the restored comfort and lasting freedom of movement it usually provides.

Cautions and side effects: Use with caution in patients with known drug sensitivity. If a hypersensitivity reaction or symptoms suggestive of liver dysfunction are observed, the drug should be stopped. Occasionally, drowsiness, dizziness, lightheadedness, malaise, overstimulation or gastrointestinal disturbances may be noted; rarely gastrointestinal bleeding, allergic skin rashes, petechiae, ecchymoses, angioneurotic edema or anaphylactic reactions may have been drug associated. While *Paraflex* (chlorzoxazone) has been suspected as being the cause of hepatic toxicity in approximately eighteen patients, it was not possible to state that the dysfunction was or was not drug induced. ***Dosage:*** Two tablets q.i.d. ***Supplied:*** Scored, light green tablets, imprinted "McNEIL"—bottles of 100.

References: 1. Batterman, R. C., and Grossman, A. J.: Fed. Proc. *14*:316, 1955. 2. Goodman, L. S., and Gilman, A., ed.: The Pharmacological Basis of Therapeutics, ed. 3, New York, The Macmillan Company, 1965, p. 331. 3. Roth, J. L. A., *et al.*: Gastroenterology *44*:146, 1963. 4. Conney, A. H., and Burns, J. J.: J. Pharmacol. Exp. Ther. *128*:340, 1960. 5. Settel, E.: Clin. Med. *6*:1373, 1959. 6. Berman, H. H., *et al.*: Dis. Nerv. Syst. *25*:430, 1964. 7. Darienzo, C.: Ibid., *27*:189, 1966.

*U. S. PATENT NO. 2,895,877

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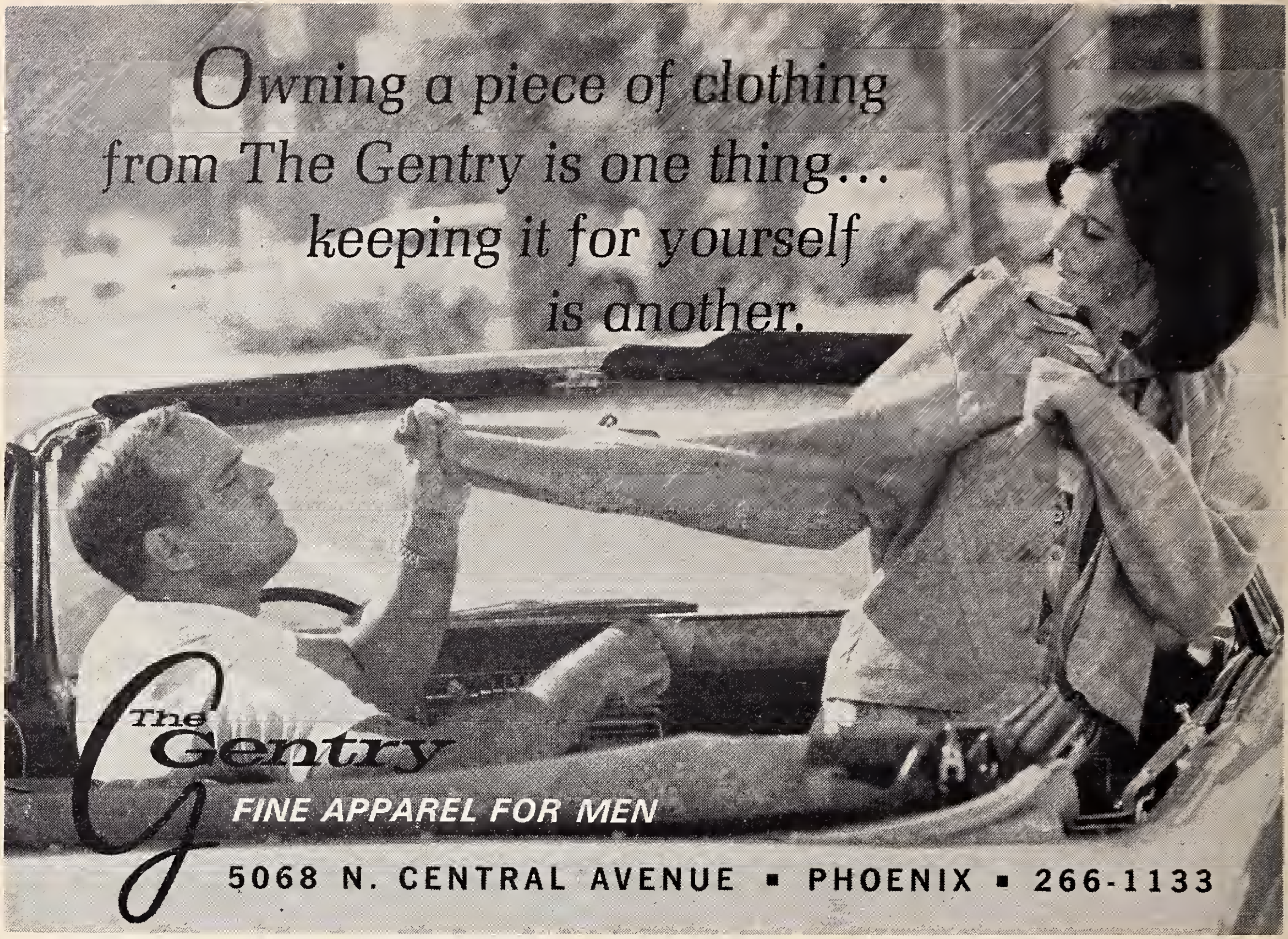
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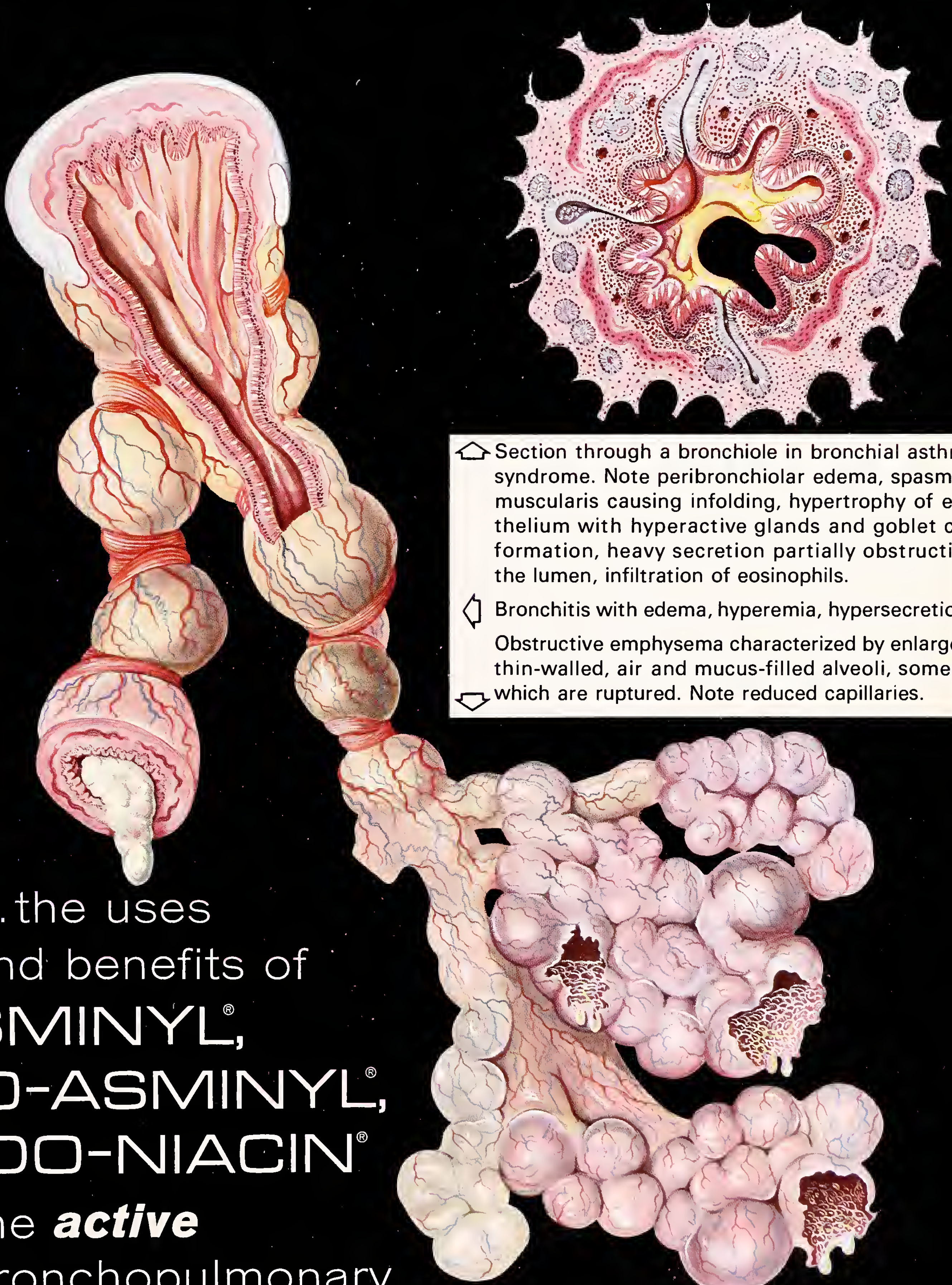

⇧ Section through a bronchiole in bronchial asthma syndrome. Note peribronchiolar edema, spasm of muscularis causing infolding, hypertrophy of epithelium with hyperactive glands and goblet cell formation, heavy secretion partially obstructing the lumen, infiltration of eosinophils.

⇦ Bronchitis with edema, hyperemia, hypersecretion.

Obstructive emphysema characterized by enlarged, thin-walled, air and mucus-filled alveoli, some of which are ruptured. Note reduced capillaries. ⇩

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Each tablet contains:
Phenobarbital Sodium....... 8 mg.
(Barbituric acid derivative)
Warning: May be habit forming.

Ephedrine Sulfate........... 32 mg.
Theophylline Hydrous.......130 mg.

INDICATIONS: For the temporary relief of the paroxysms of bronchial asthma. Also indicated for the temporary relief of bronchospasm associated with pulmonary emphysema and acute or chronic bronchitis.

DOSAGE: The average adult dose for Asminyl is 1 tablet. May be repeated every 4 hours depending upon clinical response.

HOW SUPPLIED: Tablets in bottles of 100, 500, and 1,000. List No. 60770, Gray (Scored).

CAUTION: Federal Law Prohibits Dispensing Without Prescription.

SIDE EFFECTS: Serious adverse side effects from the use of Asminyl are rare. Central nervous system excitation or depression may occur, as well as gastric irritation. Occasional idiosyncrasy to phenobarbital has occurred. Contraindicated in hypertension, cardiac disease, diabetes, and hyperthyroidism.

WARNING: Preparations containing phenobarbital sodium may become habit forming on continued use.

Quick Action in Asthma, Emphysema, Bronchitis

Immediate and sustained relief of bronchospasm through sublingual absorption of the powerful bronchodilator, isoproterenol, plus the more prolonged actions of phenobarbital, ephedrine, and theophylline.

ISO-ASMINYL®

Each tablet contains:
Phenobarbital Sodium....... 8 mg.
(Barbituric acid derivative)
Warning: May be habit forming.
Isoproterenol Hydrochloride* 10 mg.
Ephedrine Sulfate........... 32 mg.
Theophylline Hydrous.......130 mg.
*In outer coating for sublingual absorption.

INDICATIONS: For the immediate and sustained relief of bronchospasm associated with bronchial asthma, pulmonary emphysema, and acute or chronic bronchitis.

DOSAGE: One tablet held sublingually for 5 minutes, then swallowed. Repeat in 3 or 4 hours as needed for relief of symptoms. Not more than 5 tablets in 24 hours.

HOW SUPPLIED: Tablets in bottles of 100, 500, and 1,000. List No. 60480, S. C. Brown.

CAUTION: Federal Law Prohibits Dispensing Without Prescription.

SIDE EFFECTS: Serious adverse reactions are rare. Occasional nervousness, palpitations, tachycardia, insomnia, and central nervous system excitation have been observed. Contraindicated in hypertension, hyperthyroidism, cardiac disease, and diabetes mellitus.

WARNING: Preparations containing phenobarbital sodium may become habit forming on continued use.

Proven Expectorant for Active Liquefaction of Tenacious Bronchial Secretions

"Iodide salts are useful *expectorants* when it is desired to liquefy tenacious bronchial secretions, for example, in the later stages of bronchitis, bronchiectasis, and asthma."

Goodman, L. S., and Gilman, A.: *The Pharmacological Basis of Therapeutics,* New York, The Macmillan Company, 1965, 3rd ed., p. 815.

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Each Slosol coated tablet contains:
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DOSAGE: The oral dose for adults is two tablets after meals taken with a glass of water. For children over eight years, one tablet after meals with water. The dosage should be individualized according to the needs of the patient on long-term therapy.

CAUTION AND SIDE EFFECTS: Serious side effects from Iodo-Niacin are rare. Caution is recommended in persons with known sensitivity to iodides. Pulmonary tuberculosis is considered a contraindication to the use of iodides by some authorities, and should be used with caution in such cases. As with all drugs, Iodo-Niacin may cause an idiosyncrasy in some patients. Rare cases of goiter with hypothyroidism have been reported in adults who had taken iodides for prolonged periods and in newborn infants whose mothers had taken iodides for prolonged periods. Use appropriate precaution in pregnancy and in individuals receiving Iodo-Niacin for prolonged periods.

HOW SUPPLIED: Iodo-Niacin tablets are available in bottles of 100, 500, and 1,000. List No. 64580, Slosol coated pink.

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March 1, 1967 Form No. 757 Printed in U.S.A.

FRANKLIN HOSPITAL EXPANDS ITS SERVICES FOR TREATMENT OF ALCOHOLICS

On a quiet side street in the heart of downtown Phoenix sits a hospital that recently completed a $150,000 investment in the cure of alcoholism.

Franklin Hospital at 367 N. 21st Ave. is the state's only hospital licensed solely for the care of alcoholics. A $150,000 building program started last February and completed in September has expanded the facility from ten to 20 beds and added X-ray and laboratory facilities.

Now a complete and modern intensive care facility for acute alcoholism, the hospital is moving toward an integrated care program with other Valley hospitals. Eventual goal is a transfer arrangement whereby Franklin will care for the acute patient who after detoxification would be moved to a general hospital for long-term rehabilitation.

"We are uniquely set up for this program," declares Frank Walls, administrator.

"We take in the alcoholic man or woman at their worst. We offer them the best of medical care along with the extras so essential in the detoxification process: high protein diet, freedom to walk around in a quiet homelike atmosphere, freedom to visit with other patients, to sit up and talk at night, if they feel the need.

"The alcoholic going through detoxification is a sick and lonely human being. He needs understanding and as little physical confinement as possible. He also needs pleasant surroundings."

Food, an important part of the recovery process, receives major notice at Franklin where emphasis is heavy on balanced, attractively served, home-cooked meals. Snacks are always available and a cook to dish out a bowl of ice cream, make a sandwich, warm a bowl of soup. Before bedtime, each patient is asked his preference for a snack and it is prepared to order.

A coffee pot simmers 24 hours a day. A cigarette machine is handy.

A large lounge area offers comfortable stuffed chairs, a view of the grassy enclosed patio, television, reading material and the opportunity to visit with fellow patients.

If a patient wants to be out of doors, a completely walled and covered patio protects from direct sunlight while offering fresh air and solitude.

Patients eat in a dining area served from a counter adjacent to the modern kitchen. Tables for four again enable contact with other patients.

The 20-bed wing was added to the north of the old building which was remodeled for offices, laboratory and living areas.

There are four single rooms. Others offer two, three and four bed combinations. Tile floors are bright with inlaid sparkle for cheerfulness. Separate large lavatories for men and women offer hand rails and no-slip flooring for tub and shower areas.

Because of past experience with alcoholism, members of the staff at Franklin offer understanding in equal measure to professional help.

Normal stay at the hospital is five days. A few patients remain as long as three weeks. More than 7,000 men and women have been treated at Franklin Hospital since it was licensed for the care of alcoholism in 1952. They come from such distant areas as New England and Canada.

The hospital is open staffed on a courtesy basis to all licensed medical doctors in the state. Dr. Paul Armour is medical director. A registered nurse and nurse's aide are on duty around the clock.

The hospital also is a participating institution in the Arizona Blue Cross program.

Added features include a program of free vitamin therapy to all former patients who remain off the bottle and operation of an adjacent 12-bed rooming house for single men who are reformed alcoholics in need of companionship and a place to live.

According to Walls, "Six million men and women in the United States suffer from alcoholism. In Arizona alone there are an estimated 57,600.

"Losses and hidden costs to employers due to alcoholism top $500,000 each year in Arizona," he continued.

"It is vital to the continued health and progress of our state that we focus attention on this neglected disease and treat it as such. Franklin Hospital is designed to offer the intensive and specialized care so needed in this process."

If hypothyroidism leaves your patient feeling like this...

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Synthetic Thyroid Replacement Therapy

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In addition Letter® is distinctively color coded with an identifying number stamped on each tablet to provide accurate dosage control.

Indications: Hypothyroid conditions. **Contraindications:** Thyrotoxicosis, acute myocardial infarctions unless associated with hypothyroidism. In hypothyroidism with hypoadrenalism coadministration of corticoids with LETTER® is recommended. **Precautions and Side Effects:** Excessive dosage may result in diarrhea, cramps, palpitation, nervousness, rapid pulse, sweating. If symptoms appear, discontinue medication for several days, then reinstitute at a lower level. Since myxedema patients with heart disease may suffer seriously from abrupt increases in dosage, caution should be exercised in adjusting dosage. **Dosage:** Generally, the initial adult dosage is 0.1 mg. daily. This may be increased in small increments every one to three weeks until proper metabolic balance is achieved. **Available:** Bottles of 100 tablets, in six potencies: 0.025 mg. (violet), 0.05 mg. (peach), 0.1 mg. (pink), 0.2 mg. (green), 0.3 mg. (yellow), and 0.5 mg. (white).

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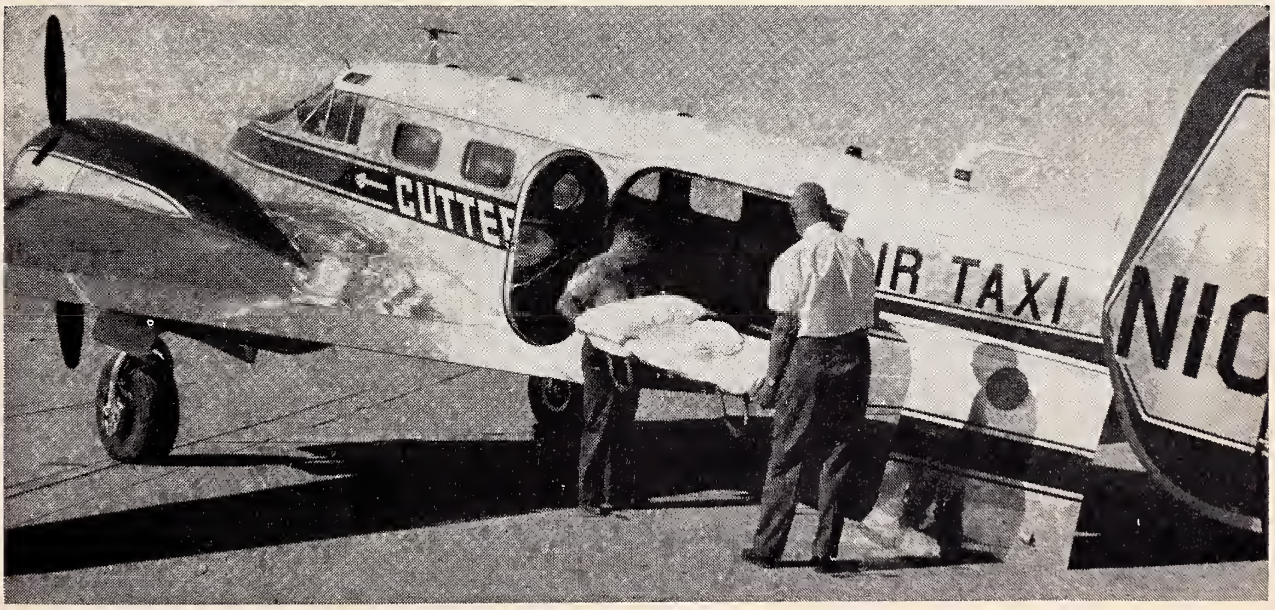

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ARIZONA FOUNDATION FOR NEUROLOGY AND PSYCHIATRY
A Non-Profit Corporation

Located in the heart of the beautiful Phoenix citrus area near picturesque Camelback Mountain, the hospital is dedicated exclusively to the treatment of psychiatric and psychosomatic disorders, including alcoholism.

APPROVED BY THE JOINT COMMISSION ON ACCREDITATION OF HOSPITALS; and THE AMERICAN PSYCHIATRIC ASSOCIATION

USC SCHOOL OF MEDICINE POSTGRADUATE PSYCHIATRIC COURSE

A post graduate course, sponsored by the University of Southern California School of Medicine, will be conducted an January 1968 at Arizona State Hospital for physicians engaged in private practice.

The course, led by Richard E. Duisberg, M.D., and Howard S. Gray, M.D., will emphasize psychiatric features and problems encountered in medical practice.

These will include: interviewing skills and procedures, recognition, evaluation and management of milder emotional disorders, handling relationships with all patients, psychotrophic drugs, the physicians' self-understanding (his own reactions to patients), the nature of mental disorders, neurotic, psychotic and behavioral disorders and their management, working with families.

Demonstration interviews, either live or on TV tapes, will be presented at virtually each session.

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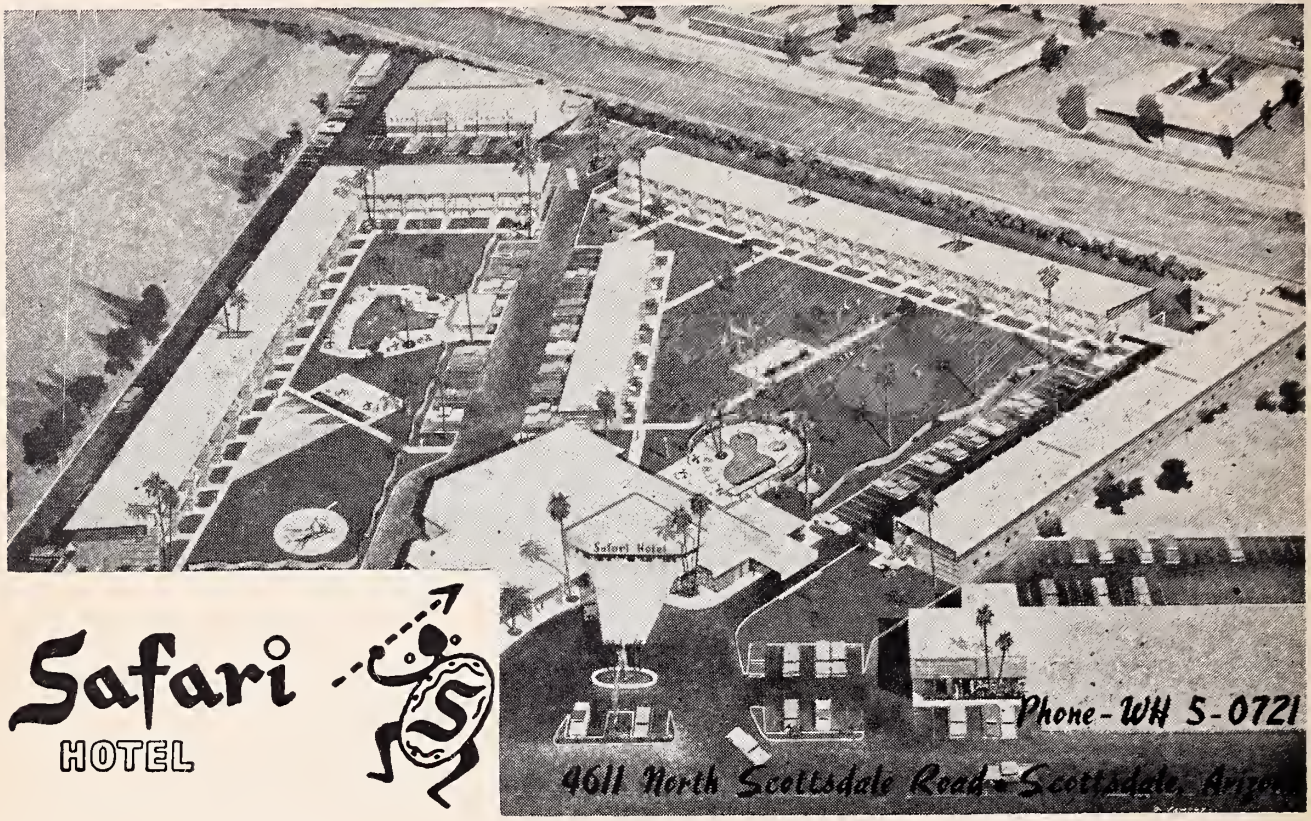

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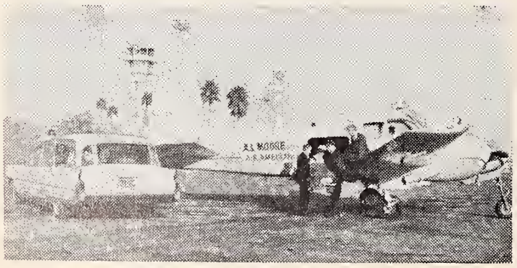

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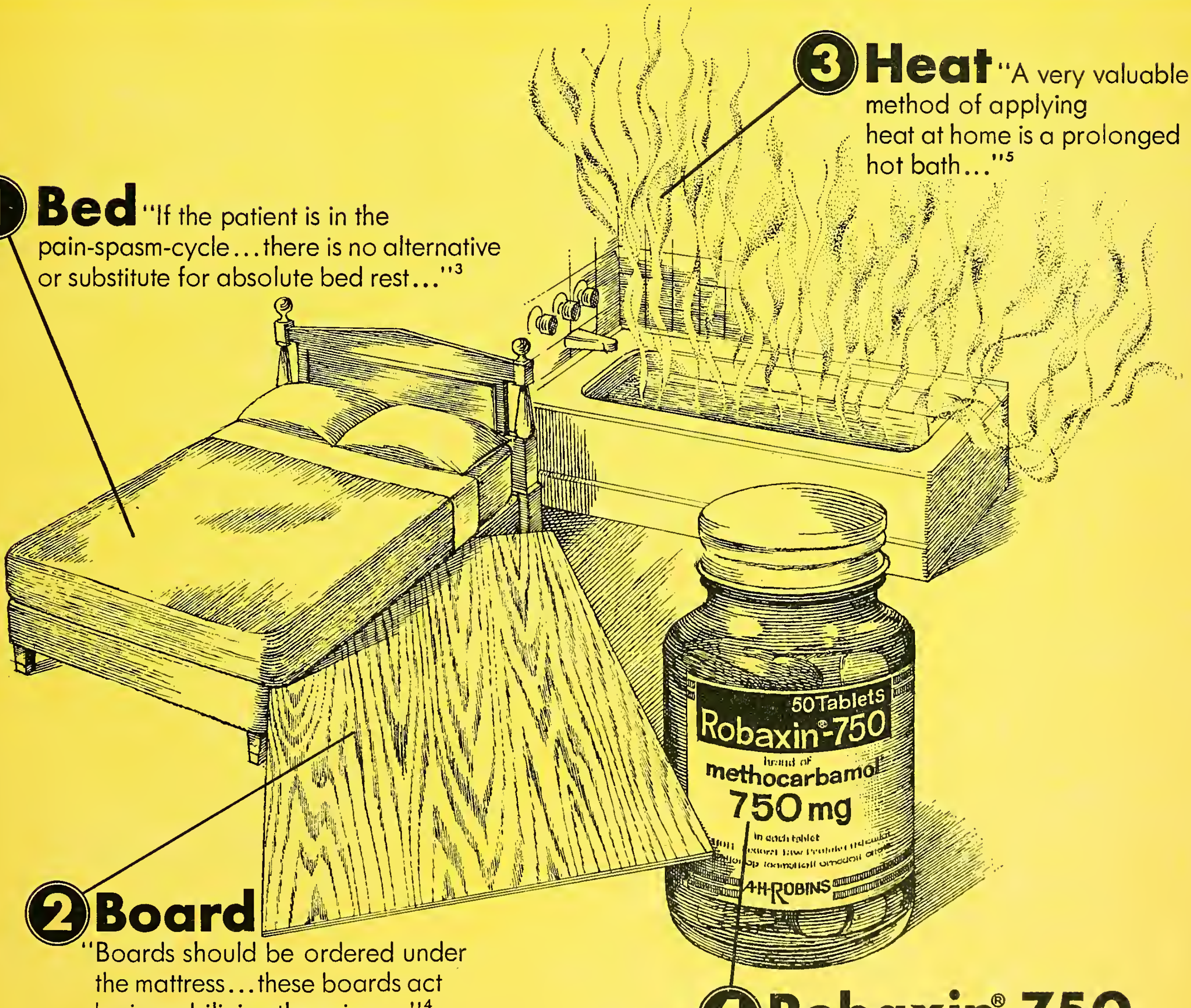

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